

U.S. Department  
of Transportation

United States  
Coast Guard



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# ***System Integrated Logistics Support (SILS) Policy Manual***

COMDTINST M4105.8

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COMDTINST M4105.8

**1 OCT 2002**

## COMMANDANT INSTRUCTION M4105.8

Subj: SYSTEM INTEGRATED LOGISTICS SUPPORT (SILS) POLICY MANUAL

Ref: (a) Major Systems Acquisition Manual, COMDTINST M4150.2 (series)  
(b) Coast Guard Logistics Doctrine, COMDTINST 4000.5 (series)  
(c) U. S. Coast Guard Logistics Handbook, COMDTINST 4000.2 (series)  
(d) Coast Guard Engineering Logistics Concept of Operations (ECONOP),  
COMDTINST 4100.7 (series)

1. **PURPOSE.** To establish policy, prescribe procedures and provide guidance for systems logistics and supply chain management and the application of life cycle logistics concepts.
2. **ACTION.** Area and district commanders, commanders of maintenance and logistics commands, commanding officers of headquarters units, assistant commandants for directorates, chief counsel, and special staff offices at headquarters shall ensure compliance with the provisions of this Manual. Anyone responsible for purchasing or supporting Coast Guard equipment must follow the guidance of this Manual. Internet release authorized.
3. **DIRECTIVES AFFECTED.** This Manual cancels Integrated Logistics Support Plan (ILSP) Development and Management Responsibility, COMDTINST 4105.1; Acquisition and Management of Integrated Logistics Support (ILS) for Coast Guard Systems and Equipment, COMDTINST 4105.2; Logistics Support Analysis, COMDTINST 4105.3; Manpower and Personnel (M&P) and Training and Training Support (T&TS) as Integrated Logistics Elements, COMDTINST 4105.9; Provisioning Manual for Major Systems Acquisitions, COMDTINST M4423.3; and Operational Logistics Support Plan (OLSP) Development and Management Responsibility, HQINST 4081.2.
4. **BACKGROUND.** This Manual combines several logistics instructions. It deletes the requirement for an OLSP and makes the ILSP the life cycle logistics document for major systems. It also sets forth the requirement for the Integrated Logistics Support Management Team (ILSMT) to meet at least annually throughout the life of a major system. The Manual

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establishes the requirements for the formal transition of an acquisition to the sustainment phase. It also establishes minimum training requirements for Logistics Element Managers and requires them to continue support after an acquisition is fielded.

5. **DISCUSSION.** This Manual is a guide for all Coast Guard assets. It is oriented towards all life cycle phases of Coast Guard assets. It establishes an Integrated Logistics Support System (ILSS), using a systems engineering process, which addresses all elements necessary for planning, developing, acquiring and sustaining Coast Guard assets throughout their life cycle. It is not meant to supplant the requirements for acquisition projects as set forth in reference (a). It does build on and follow the general philosophies promulgated in references (b) through (d). Procedures set forth in this Manual apply to all Coast Guard assets and major and non-major acquisitions that require some level of support. The office or unit acquiring the item must coordinate with the sponsor and support community to create appropriate, tailored planning documents. *The overall goal of the logistics process is to put the right material and the right people (with the right skill sets) in the right place, at the right time, at a reasonable cost.*
6. **REVISIONS.** Recommendations for improvements to this Manual shall be submitted to Commandant (G-SL).
7. **FORMS/REPORTS.** None.

A handwritten signature in black ink, appearing to read 'T. W. Allen', with a large, stylized initial 'T' and a long horizontal flourish extending to the right.

**T. W. ALLEN  
CHIEF OF STAFF**



RECORD OF CHANGES
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## CHAPTER 1. INTRODUCTION

*There's never enough time to do logistics right, but there's always enough time to do it over...and over...and over. (UNK)*

- A. General. This Manual addresses most of the logistics requirements for the life cycle support of Coast Guard assets. It addresses the system engineering and integrated logistics support requirements necessary to maximize the effectiveness of our logistics efforts. This Manual focuses on logistics and supply chain management and provides one source for integrated logistics policy and procedures. These policies and procedures are based on the concepts set forth by the Systems Logistics – 21<sup>st</sup> Century (SL21) initiative and defined in the Coast Guard's Logistics Doctrine (reference (b)).
- B. Discussion. Only by maximizing the effectiveness of our logistics efforts and thinking of logistics as a systematic process can we reach the seven desired logistics end-states identified by SL21 initiative and explained in reference (b). SL21 must be the foundation and framework for every logistics issue.
1. Logistics encompasses all activities related to the development, acquisition, sustainment, and retirement of a system or components thereof. There is a direct link between the logistics system and the Coast Guard's operational capabilities. This link is addressed in SL21.
  2. SL21 is a transformation plan that calls for proactive evolutionary changes based on analysis of all Coast Guard logistics processes and activities. SL21 calls for the use of supply chain management concepts and techniques.
  3. SL21 defines supply chain management as: "The management of all Coast Guard internally generated and externally connected logistics functions, processes and relationships in order to achieve maximum effectiveness and efficiency in establishing the right mix, modernization, and maintenance of Coast Guard infrastructure, workforce and information." It focuses on the management of suppliers rather than the supplies and strives to link customers, through a fully integrated process, directly to suppliers.
  4. Logistics efforts, by nature, are data collection intensive. During the acquisition phase, this collection is normally accomplished through the use of Logistics Management Information (LMI) summaries established under MIL-PRF-49506 and called out in contracting documents. The Coast Guard should have logistics business processes with the ability to electronically communicate and process information across all activities, and functions associated with, or in support of, a system throughout its life cycle. This requires a seamless architecture that provides controlled access to all data and links the entire acquisition, logistics support, and operational communities, including the program office, the prime contractor, subcontractors, vendors, suppliers, support agencies, and end-users. Regardless of the collection vehicle, it is important to capture the data in a central repository.

5. Coast Guard Logistics Doctrine, reference (b), defines logistics and describes the current and planned future states of the Coast Guard's logistics efforts.
  6. Coast Guard logistics processes must strive "to provide effective, affordable capabilities that increase operational effectiveness through lowest total ownership cost." In order to do this the key supply chain processes must be integrated across all organizational entities.
  7. The following chapters lay out the processes and procedures for achieving our logistics goals.
- C. Policy. All major acquisition projects, activities responsible for non-major acquisitions and technology projects, and all support organizations shall utilize the supply chain concepts and Systems Engineering and Integrated Logistics Support practices described in this Manual. These practices should be tailored to the level required to ensure all Coast Guard assets are properly and economically supported throughout the life cycle.
1. All Integrated Logistics Support (ILS) elements, as defined in Chapter 4, will be planned for and supported.
  2. Data shall be collected in electronic format whenever practicable. This collection should start during the acquisition and continue throughout the life cycle of an asset. The information should be transferred electronically to and from automated information systems that support Coast Guard asset visibility and logistics operations. The information should be available across the entire logistics and operational communities.
  3. Systems Engineering principles and practices shall be used during the concept exploration and development phases for new assets.
  4. Each major Coast Guard system (cutter, boat, aircraft, information technology system, electronics system, etc.) will have an Integrated Logistics Support Plan (ILSP). See chapter 5 for specific ILSP requirements.
  5. An integrated project team process will be used to develop and implement the logistics plans. A core group of functional experts, the Integrated Logistics Support Management Team (ILSMT) will be chartered for each major system (existing and new). This team is responsible for the update of the ILSP and for ensuring that all support issues are addressed.
  6. Total Ownership Cost shall be a consideration for all assets.
  7. Delivery requirements (data, system/equipment items, logistics, etc.) for all acquisitions should be developed and agreed upon by the support community, operators, and acquirers prior to any contract award for new assets.

8. Supply chain techniques and methods shall be used to assess the relationship between mix, modernization, and maintenance, with and between workforce, infrastructure, and information management.

D. Acronyms. Acronyms are included as Enclosure (1).





## CHAPTER 2. SYSTEMS ENGINEERING PROCESS AND THE LOGISTICS PHASES

*The success of a logistics program hinges on how the readiness and supportability characteristics are designed into the system.*

- A. Acquisition to Sustainment to Disposal, The Grand Design. The Coast Guard has defined logistics in many ways. The Logistics Master Plan defines it as “A generic term which encompasses all those support activities associated with developing, acquiring, testing, and sustaining the mission effectiveness of operating systems throughout their service lives.” The overall goal of the logistics process is to put the right material and the right people (with the right skill sets) in the right place, at the right time, at a reasonable cost.
1. Regardless of the definition used, the primary goal is to meet user requirements at a reasonable cost. This includes identifying, developing, acquiring, testing, sustaining and disposing of assets to effectively complete normal and contingency operations. Remember, *it's never too early to start logistics planning!*
  2. It is imperative that all systems and equipment, including Commercial and Non-Developmental Items (CANDI), be logistically supported throughout their life cycle. This includes platforms, systems and equipment acquired outside the major acquisition process.
    - a. In order to achieve this goal, the Coast Guard uses a matrix or Integrated Product and Process Development (IPPD) approach whenever possible.
    - b. IPPD is a management technique that simultaneously integrates all essential acquisition activities through the use of multidisciplinary teams to optimize the design, manufacturing, business, and supportability processes. It is a Systems Engineering Process (SEP) integrated with sound business practices and common sense decision-making.
    - c. The use of this approach will provide an overarching systems engineering process that results in an integrated system design solution that reflects the requirements for all system elements (i.e., hardware, software, facilities, people, and data) while identifying and managing technical risks throughout the logistics support phases.
  3. Coast Guard personnel and organizations responsible for acquiring equipment/systems will utilize the processes described in this chapter. These processes lay the groundwork for all logistics during the various logistics support phases.
  4. The logistics support phases are discussed in detail in the Coast Guard Logistics Handbook, COMDTINST M4000.2 (series). They are:
    - a. Acquisition Logistics deals with the development and procurement of systems or assets. Actions taken during this phase have a great impact on logistics capabilities and costs throughout the asset's life cycle. Most of the costs incurred during sustainment are determined here.

- (1) It is vitally important that system developers evaluate the potential operational and support costs of alternative designs during acquisition. It is also important to plan for and implement the transition of the system/equipment acquired from the acquisition to the sustainment community.
  - (2) Agreements between the acquiring and support activities should be developed during this phase. These agreements will indicate what will be delivered and when it will be delivered. The acquisition is not complete until a fully supported system/equipment is delivered.
  - (3) The Major Systems Acquisition Manual (MSAM) sets forth the requirements for logistics and planning for major acquisitions. Those requirements, in conjunction with this Manual, provide sound guidelines for any acquisition.
- b. Transition is the transfer of a system or asset from the acquisition to the sustainment phase. This process is discussed in Chapter 9 of this Manual.
- c. Sustainment Logistics is the support of platforms and systems throughout their normal operating lives and continued life extension of a program. This phase usually accounts for over 50% of the system's life cycle cost, but the majority of the decisions that impact the costs are made during the acquisition phase.
- (1) Logistics in this phase involves the refinement of supply and maintenance support, investigating anomalies, supporting technical information, and personnel support issues, such as training, to promote an extended and effective service life.
  - (2) During this phase, configuration changes are often made to improve the design or lower end item costs. They usually require extensive logistics support. These changes are frequently the result of equipment obsolescence, changes in mission requirements, or updates to equipment based on problems or modernization.
  - (3) Configuration changes must be planned, approved, funded, supported and documented.
- d. Contingency or Surge Logistics requires a higher tempo of support to meet the requirements of natural or man-made emergencies that threaten the safety of lives, property, or the environment; threats to national security interests; or other national interests. The workload in this phase may exceed normal support resources. Due to budget considerations the Coast Guard does not normally maintain spares and equipment for these types of operations. Planners should be aware of the limitations and be prepared to pursue alternative methods to support assets. Trade off studies should be conducted to determine if it is beneficial to maintain some contingency items.

- e. Disposition Logistics occurs at the end of the service life of a platform/asset. Of primary concern are disposal and environmental issues that may have to be dealt with. The Property Management Manual, COMDTINST M4500.5 (series), provides policy and guidance for this phase.
- B. Supply Chain Management. All Coast Guard personnel shall strive to successfully perform Coast Guard missions using the appropriate amount of resources needed to maximize operational effectiveness and efficiency. The Coast Guard's supply chain management concepts will be used to meet this requirement.
- 1. Supply chain management must be a balanced systemic approach and be used to make optimal resource decisions based on system-wide reviews of all issues.
  - 2. The fundamental premise of supply chain management is the operation of a continuous, comprehensive logistics process from the initial identification of an operational requirement to its ultimate satisfaction.
  - 3. Supply chain management has three major phases (planning, production, and delivery) that closely parallel the logistics phases discussed in Section A of this Chapter. These phases are fully described in the Coast Guard Logistics Handbook.
- C. Systems Engineering Process (SEP). The Systems Engineering Process for acquisitions is discussed in enclosure (1) of the MSAM. SEP is an integral part of good logistics management and ILS planning.
- 1. The process is used to transform operational needs and requirements into an integrated system design solution that includes hardware, software, and planned logistics resources. It ensures the compatibility, interoperability and integration of all functional and physical interfaces.
  - 2. SEP also balances performance, cost, and schedule. SEP consists of four basic steps: (1) Functional Analysis, (2) Synthesis, (3) Evaluation and Decision, and (4) Description of System Elements. These steps are repeated until the functional decomposition of requirements reaches the lowest logical breakdown of a performance function.
  - 3. While SEP is not specifically required, some tailored version should be considered for all acquisitions. It may also be used to make decisions on changes during the sustainment phase.
  - 4. Figure 2-1 illustrates the systems engineering process. The process is comprised of several disciplines. These disciplines are described below:
    - a. System Engineering is the application of a systematic, disciplined, and documented technical effort to define and develop systems. It involves design and management of a total system that includes hardware and software, as well as other system life-cycle elements. It follows a logical top-down progression in

which a comprehensive set of mission requirements are translated into performance requirements for each functional element of a system.

- b. Science and Technology is the discipline that transitions technological developments into equipment or material for use by operational forces. The Science and Technology aspect demonstrates new and emerging technologies that have a direct application to Coast Guard systems.
- c. Test and Evaluation is the process that compares a system or components to the requirements and specifications. Both Developmental Test and Evaluation and Operational Test and Evaluation are utilized. The results are evaluated to assess progress of design, performance, operational suitability, etc.
- d. Acquisition Logistics is a multifunctional technical management discipline used to ensure that support considerations are an integral part of the system's design requirements. The principle objectives are to ensure that the system can be cost-effectively supported throughout the life cycle and that the infrastructure elements necessary for the operational support are identified, developed, and acquired.
- e. Software Engineering is the application of systems engineering to software. In general, software engineering comprises all the activities performed to support the translation of a user need into a product that includes hardware and software.
- f. Production, Quality and Manufacturing Management is a discipline used to ensure the "producibility" of the system design. Producibility is the relative ease of manufacturing an item or system. It should be designed into a system to the maximum extent possible/feasible. Designing in producibility reduces both schedule and cost risks.
- g. Configuration Management is a process to guide the system products, processes, and related documentation, and to facilitate the development of open systems. The configuration management effort includes identifying, documenting, and auditing the functional and physical characteristics of an item; recording the configuration of an item; and controlling changes to an item and its documentation. It shall provide a complete audit trail of decisions and design modifications. Knowledge of the configuration of a system is vital for making proper logistics decisions.



D. Total Ownership Cost (TOC) and Cost As an Independent Variable (CAIV). TOC is the sum of all life cycle costs and the cost of the supporting infrastructure that plans and manages an asset. Over 50% of the TOC is incurred during the sustainment of an asset. One of the primary goals of logistics and the systems engineering process is to provide a system and support at a reasonable/right cost. As much as 80% of the TOC is determined during the initial acquisition. The application of TOC procedures through tradeoffs can greatly reduce the out-year costs while maximizing operational effectiveness. Program managers and personnel tasked with acquiring Coast Guard assets shall make the reduction of TOC one of the key components of the acquisition.

1. Minimizing out-year costs and avoiding near-term costs must be a continuously pursued goal. CAIV is a methodology or strategy that helps meet this goal. Program managers should consider the use of CAIV to accomplish this. Figure 2-2 provides a step-by-step process for CAIV tradeoffs. The systems engineering process results in the output of specific design requirements. These requirements, in turn, can be used as performance specifications that state requirements in terms of true operational capability needed rather than maximum performance specifications. Experience has shown that systems developed using the CAIV process are generally simpler, easier to build, more reliable, and closer to the operational requirements than those developed to meet maximum performance specifications. Additionally, the traditional method of acquiring assets based on the lowest bid often results in greatly increased costs during the operations and sustainment phase of the life cycle.
2. The CAIV concept is based on setting aggressive (low), realistic cost objectives and managing to achieve them by conducting trade-off analyses that consider cost, performance, schedule, and supportability. The objectives must balance operational needs with projected out-year resources. Once the system performance and objective cost are determined, cost will be more of a constraint and less of a variable, while the required capabilities are still met. The process entails much greater user input to the process. The acquisition is based on performance specifications. The key principles are:
  - a. Set realistic but aggressive cost objectives (defined as ranges) early in the acquisition. This means adopting sound commercial practices by focusing on setting and managing to the production cost objective and assessing the impact of basic system parameters and design decisions on Life Cycle Costs (LCC).
  - b. Manage risk to achieve cost, schedule, performance, and life cycle support objectives. Risks must be recognized and managed through the iteration of tradeoffs, identifying key performance and manufacturing process uncertainties and demonstrating solutions prior to production. Use of mature processes should be a significant factor during the source selection process.
  - c. Use metrics to track progress in setting and achieving the cost objectives. Metrics should identify important and observable steps. Specific risk reduction steps for manufacturing, performance, manpower utilization, etc, should be addressed.

- d. Make use of tools such as cost estimating, requirements analysis, tradeoff risk analysis, Pareto analysis (focus on biggest payback items), and Value Engineering (identify reductions where cost and performance are out of balance).
  - e. Motivate managers and industry and provide incentives for meeting program objectives. Motivating entails stressing up front investment to minimize LCC and accepting risks when the potential payoffs are high. Incentives should focus on sharing savings in long term or life cycle costs as opposed to near term. This is done via the competition and writing life cycle cost objectives into the contract.
3. In order to apply the CAIV approach, program managers should:
- a. Eliminate unnecessary military specifications, regulations, and data.
  - b. Eliminate marginal performance improvements that add little to operational effectiveness but increase costs.
  - c. Make use of contractor flexibility and innovative manufacturing.

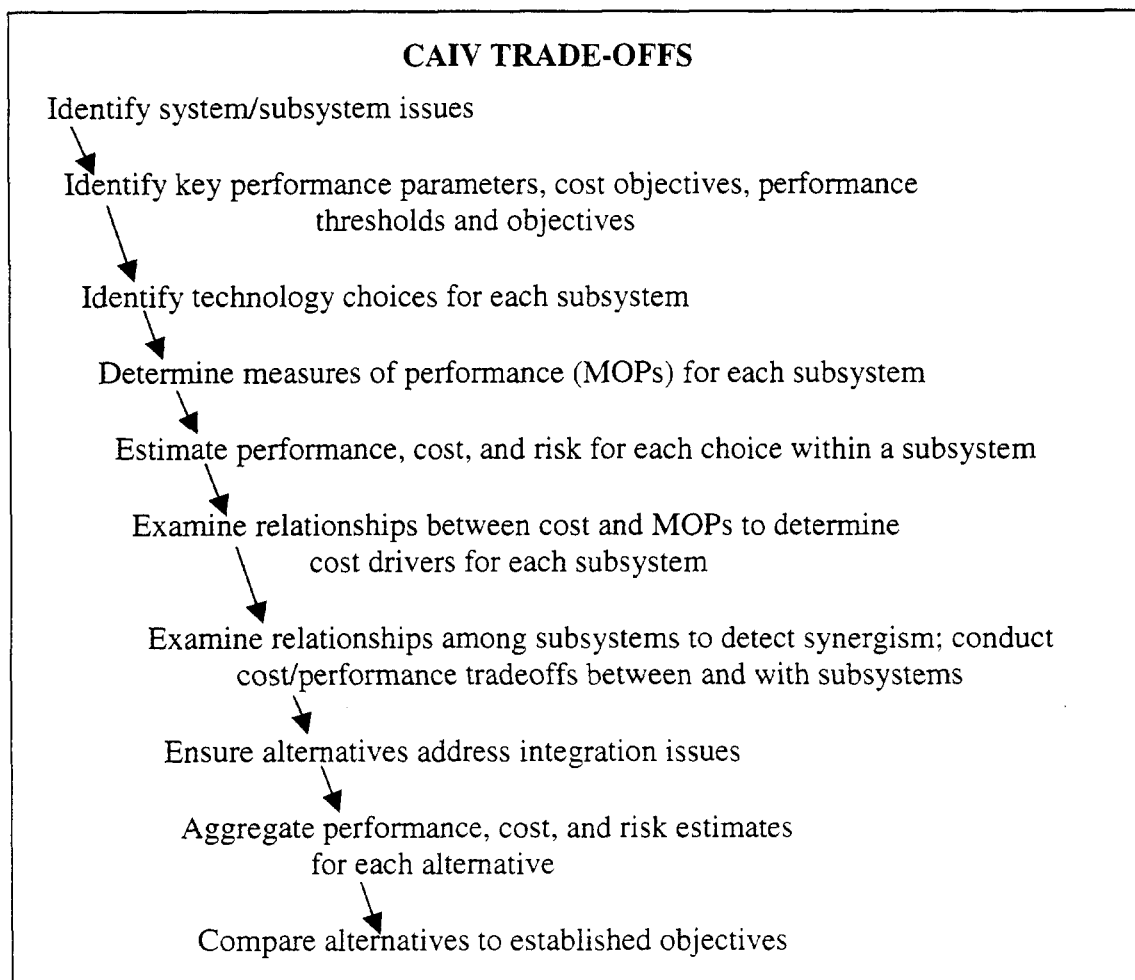


FIGURE 2-2, CAIV Methodology





## CHAPTER 3. LOGISTICS SUPPORT ROLES AND RESPONSIBILITIES

*"...no writer has ever succeeded in glamorizing it. The result is that logistics are usually either downplayed or ignored altogether." A General's Life by Omar N. Bradley*

A. Roles and Responsibilities. The successful implementation of integrated logistics support requires a team or matrix approach. The Coast Guard will use Integrated Logistics Support Management Teams (ILSMTs) to support the acquisition, sustainment, and disposal of assets. Various commands, teams, boards, and elements have logistics responsibilities. The specific command or activity responsible for each role is broken down by platform type. These are listed in Figure 3-1. The primary logistics roles are:

1. ILSMT. The ILSMT is a cross-functional team, established for the life cycle of a system. It is usually composed of Coast Guard and contractor personnel. These personnel represent the various logistics support elements from headquarters, supply centers, training centers, districts, MLCs, units, and other interested groups. The actual membership may vary from project to project and throughout the different logistics support phases (normally acquisition, sustainment, and disposal). For example, representatives from operational units should be included during sustainment and personnel from the congressional affairs staff may be required during the disposal phase.
  - a. Support Program Directors (SPDs) shall designate staff components to provide appropriate personnel for the ILSMT. The ILSMT representatives shall be empowered, to the maximum extent possible, to make commitments for the organization or functional area they represent. The ILS manager for major acquisition projects and sponsors for non-major acquisitions will establish ILSMTs. Platform managers will establish ILSMTs for all existing major operational Coast Guard systems. Major systems are cutters, standard boats, aircraft, and stand-alone equipment, such as radars and Information Technology (IT) systems, which cross multiple platforms or require extensive logistics support. ILSMTs may be established for other assets as required or determined by the platform manager.
  - b. All ILSMTs shall meet at least annually throughout the life of the system. This requirement can be extended twice, on an annual basis, due to budget or operational constraints during sustainment. When an ILSMT will not be held, the chair shall inform Commandant (G-SLP) and the ILSMT members of the reasons and the proposed timeframe for rescheduling. The ILSP shall still be reviewed. Once the project reaches the Coast Guard Support Date, the ILSMT chair transfers to the platform manager, as stated in Chapter 5 of this Manual. ILSMT responsibilities include:
    - (1) Develop, review and update the Integrated Logistics Support Plan (ILSP). Each ILSP shall be reviewed at least annually during the asset life cycle.
    - (2) Ensure that appropriate ILS elements are addressed and updated as needed.

- (3) Review Support Analysis or Logistics Support Analysis (LSA), and interface with the system engineering process.
2. Configuration Control Board (CCB). The CCB is a cross-functional team that reviews proposed configuration changes in response to changing system, equipment or facility requirements. It is chaired by the Project Manager during the acquisition phase, and by the facility manager during operations and sustainment. It shall:
- a. Review change proposals and requests for deviation. Make configuration decisions based on trade-off, cost benefit, and value added analyses.
  - b. Ensure that appropriate ILS elements are addressed and funded for any configuration changes.
  - c. Ensure only necessary changes are made.
  - d. Document, communicate, and monitor the implementation of approved changes.
3. Facility Manager. The Facility Manager translates the operating program needs into system requirements. The Facility Manager is normally from the headquarters directorate responsible for the asset (see Figure 3-1). The Facility Manager shall:
- a. Determine operating program needs based on requirements and functional analyses and translate needs into system requirements.
  - b. Describe the need (platform, system and equipment requirements) for the operating programs.
  - c. Coordinate with the Logistics Advocate and the operating programs to ensure that the platform, system and equipment requirements are met.
  - d. Obtain and provide resources, through the budget and acquisition process, to the Logistics Advocate to support platform, system or equipment to meet mission requirements.
  - e. Develop Operational and Maintenance Concepts for the platform, system or equipment.
  - f. Coordinate with the training LEM to develop training concepts, based on a needs analysis, for the crew and support personnel. Identify the most appropriate training option (in-house, contracted, computer based, or other performance intervention) that will result in the ability of personnel to perform job tasks.
  - g. Continually evaluate the operational effectiveness of the platform, system or equipment to meet mission requirements.
  - h. Coordinate the hand-off of systems from acquisition to sustainment.

- i. Serve as a member of the ILSMT during all phases of the life cycle.
  - j. Serve as a member of the CCB during the acquisition phase. Chair the CCB through sustainment and disposal.
4. Platform Manager. The Platform Manager manages the logistics support for a platform during the sustainment and disposal phases. This is usually the ELC for vessels and boats, AR&SC for aircraft, or a headquarters directorate (see Figure 3-1). They shall:
- a. Serve as a member of the ILSMT during the acquisition phase and chair the ILSMT during sustainment and disposal. Initiate ILSMTs for existing assets.
  - b. Implement and continue the logistics support philosophy established during the acquisition, with changes as required.
  - c. Manage the logistics support for a platform during the sustainment and disposal phases by executing the necessary logistics support plans.
  - d. Ensure there is a logistics support philosophy and plan for the platform.
  - e. Coordinate with customers (including Facility and Acquisition managers) to ensure the platform supports the operational mission.
  - f. Plan for, obtain and distribute resources from the Facility Manager via the Logistics Advocate to implement the support plan.
  - g. Continually evaluate/improve the performance/reliability of the platform.
  - h. Lead cross-functional teams to plan, develop, analyze and recommend configuration changes.
  - i. Manage the configuration data at the platform level during the sustainment phase. Serve as a member of the CCB during all phases.
  - j. Maintain the ILSP during the sustainment and disposal phases.
  - k. Ensure engineering logistics portions of logistics support plans are current during the sustainment phase.
  - l. Ensure logistics support data is collected and reviewed during sustainment.
5. Logistics Advocate. The Logistics Advocate is at the headquarters level and manages the logistics system to satisfy platform requirements. The Logistics Advocate shall:
- a. Manage the logistics system to satisfy platform requirements.
  - b. Coordinate with customers at all levels to ensure the logistics system supports operational missions and ensure that logistics concerns are addressed.

- c. Obtain resources and make macro-level distribution of them to perform logistics functions.
  - d. Continually evaluate the performance of the logistics system and make improvements as needed.
6. Logistics Element Managers (LEMs). LEMs are an integral part of the logistics process. It is imperative that they are involved throughout the life cycle, NOT JUST ACQUISITION, and that continuity is maintained for each logistics element. Each organization shall take ownership and responsibility for their specific logistics elements and the LEMs should be empowered to speak for their command/office. The project manager (for acquisitions) or platform manager (for existing systems) shall request personnel, from appropriate support and policy units, to carry out LEM duties. Once the parent command identifies the personnel, the project/platform manager shall designate them, in writing, as LEMs. The designation letter shall specify any special requirements and training the LEM should have. It shall be endorsed by the LEM and the LEM's supervisor and returned to the Project Manager. General logistics training for LEMs is addressed in Paragraph B to this Chapter. Specific element training should be determined and provided by the responsible organization. Figure 3-2 is a sample designation letter. Each LEM shall:
- a. Assist with identifying logistics requirements and constraints during Request for Proposals (RFPs) and contract development for acquisition projects.
  - b. Identify requirements, plan for, and acquire material, facilities, personnel, and services for assigned logistics support elements.
  - c. Serve as a member of the ILSMT.
  - d. Prepare required documentation for assigned logistics support elements in support of the ILSP development efforts and the acquisition project.
  - e. Update documentation, review the adequacy of the support, and make necessary changes in ILS resources or infrastructure throughout the life cycle.
  - f. Review deliverables from project contractors.
7. Integrated Logistics Support Manager (ILSM). The ILSM is normally a dedicated major acquisition project staff position. The sponsor for non-major acquisitions shall designate an ILSM to serve as the focal point for ILS elements. The ILSM shall:
- a. Formulate, coordinate and implement the ILS program for the Project Manager.
  - b. Coordinate and chair the ILSMT, for the Project Manager or sponsor, throughout the acquisition phase (this responsibility is normally delegated from the Project Manager/Sponsor).

- c. Identify logistics support, funding, resource requirements, potential roadblocks, and other relevant issues to the Project Manager.
  - d. Ensure that ILS is included as part of the project contractual requirements.
  - e. Plan logistics support for the Initial Operational Capability (IOC) and Coast Guard Support Date (CGSD).
  - f. Initiate the transition to sustainment.
8. Project or Acquisition Manager (PM/AM). This term can apply to both major and non-major acquisitions. For non-major acquisitions, the sponsor will normally assign an acquisition manager. The MSAM (reference (a)) specifies the role of the PM for major acquisitions. In addition to those responsibilities, the AM shall:
- a. Ensure that the equipment or platform meets the sponsor's requirements and that a complete logistics support capability is acquired and fielded prior to transition.
  - b. Make decisions based on trade-off, cost benefit, and value added analyses.
  - c. Chair the CCB throughout the acquisition phase.
9. Equipment/System Manager. The equipment/system manager plays a key role in providing logistics support for existing assets and non-major acquisitions. This position normally resides with the organization tasked with platform manager responsibilities (see Figure 3-1). An acquisition staff or formal ILSMT does not normally support logistics planning in these two areas. The equipment/system manager will normally be tasked with developing the support. They shall:
- a. Manage the logistics support for an equipment/system during all life cycle phases.
  - b. Ensure there is a logistics support philosophy for the equipment/system.
  - c. Initiate and lead cross-functional teams to provide logistical support for the equipment/system.
  - d. Ensure logistics support resources are replenished and that new resources are acquired as necessary.
  - e. Draft and update Equipment/System Integrated Logistics Support Plans (EILSPs) for assigned equipment.
  - f. Ensure sustainment support for assigned equipment/systems is consistent with the integrated support plans.
  - g. Ensure that the equipment continues to meet the sponsor's requirements.
  - h. Plan, develop, analyze and recommend configuration changes. Manage the configuration data at the equipment/system level.

- i. Coordinate with customers to ensure the equipment supports the operational mission.
10. Supply Manager. The supply manager supports platform, equipment, and maintenance management by executing commodity and item plans derived from the ILSPs for all life cycle phases. See Figure 3-1 for actual functional roles. Specific responsibilities include:
- a. Execute the supply portion of the ILSP.
  - b. Continually evaluate and recommend improvements to the platform and equipment support plans.
  - c. Perform centralized planning and management of system-wide inventory.
  - d. Develop and analyze supply data.
  - e. Adjust wholesale inventories as necessary.
11. Maintenance Manager. The maintenance manager schedules and executes integrated maintenance support for assigned platforms. See Figure 3-1 for actual functional roles. The maintenance manager shall:
- a. Execute and manage funds for the major maintenance portion of the platform and equipment support plans.
  - b. Coordinate unscheduled maintenance and casualty response beyond platform capability.
  - c. Schedule and implement engineering changes and field changes.
  - d. Serve as the technical engineering consultant to the platform and operational commanders.
  - e. Develop and analyze maintenance data.
  - f. Continually evaluate and recommend improvements to the platform and equipment support plans.
12. Support Manager. The support manager is responsible for requirements that exceed the on-board capability of the platform. See Figure 3-1 for actual functional roles. Support managers shall:
- a. Perform or arrange support for assigned platforms.
  - b. Act as the single contact between the platform and logistics system. Provide matrix management between the technical, maintenance, and supply functions.

- c. Continually evaluate and recommend improvements to the platform and equipment support plans.
  - d. Provide or arrange maintenance support such as maintenance assistance, maintenance augmentation, materiel assessment, and, when directed by the maintenance manager, casualty response.
  - e. Provide or arrange port services as directed by appropriate support plans.
13. Platform (Unit) Level Logistics Manager. This is a position normally assigned at the unit level to the Engineering Officer or Engineering Petty Officer. They shall:
- a. Schedule, coordinate, oversee and perform organizational level maintenance.
  - b. Ensure that all aspects of engineering logistics required for the platform/unit to perform its missions have been addressed.
  - c. Develop, analyze, and update maintenance data at the time of the event.
  - d. Continually evaluate and recommend improvements to the platform/unit and equipment support plans.
  - e. Advise the Support Manager of needs beyond unit capabilities.
14. Coast Guard Logistics Advisory Board. This is a group that consists of the process owners of the Coast Guard's macro supply chain processes. It shall:
- a. Provide oversight of strategic integrated logistics planning across all functional supply chains.
  - b. Establish strategic standards and measures for the seven desired end-states identified in reference (b).
  - c. Provide oversight of strategic budget targets for mix, modernization, and maintenance funding.
  - d. Coordinate, connect, and strategically link capability planning across all Coast Guard elements.
  - e. Identify core competencies in each Coast Guard macro logistics supply chain.
  - f. Coordinate and strategically link all supply chain information systems.
15. Configuration Data Manager (CDM). CDMs exist at various organizations and levels within the Coast Guard. Their primary function is to manage the configuration data for assigned systems/equipment. Specific duties may vary based on the organization or the type of system supported. Basic responsibilities include:
- a. Maintain/manage the baseline configuration data.

- b. Maintain related configuration databases.
- c. Receive, review, and process change notices.
- d. Provide current configuration information for all assigned units, systems, and equipment.

#### LOGISTICS SYSTEMS FUNCTIONAL ROLES FOR ASSETS

ROLES	Air	Boats (Std)	Boats (Non-Std)	Cutters	C4I	ATON	Facilities
Facility Manager	G-OCA	G-OCS G-OPD	G-OCS G-OPD Area District	G-OCU	G-O G-MR G-S (x)	G-OPN	G-OCS G-MO G-SEC
Platform Manager	AR&SC G-OCA G-SEA	ELC	G-OCS G-OPD Area District	ELC	ELC M Units	G-OPN District	CEU M Units
Logistics Advocate	G-SEA	G-OPD G-SEN G-SCE	G-SCE G-OPD G-OCS Area District	G-SEN G-SCE	G-O G-M G-SC	G-SEC-2	G-OCS G-MO G-SEC
Acquisition or Project Manager and ILSM	G-A G-D	G-A Sponsor	G-OCS G-OPD Area District	G-A G-D	G-A SMEFs G-D Sponsor	G-SEC-2 District	G-A G-OCS District G-D
Equipment/System Manager	AR&SC G-SEA	ELC TISCOM C2CEN	G-OCS G-OPD Area District TISCOM C2CEN	ELC TISCOM C2CEN	ELC SMEFs M Units	G-SEC-2 District Group	ELC M Units Facility
Supply Manager	AR&SC	ELC	G-OPD District ELC Group	ELC	ELC M Units	District Group ISC ELC	ELC M Units Facility

FIGURE 3-1, Logistics Functional Roles



## LOGISTICS SYSTEMS FUNCTIONAL ROLES FOR ASSETS

ROLES	Air	Boats (Std)	Boats (Non-Std)	Cutters	C4I	ATON	Facilities
Maintenance Manager	AR&SC	NESU ESU MLC ISC District Group	District Group	MLC(v,t)	MLC M Units	District Base Group Unit	CEU M Units
Support Manager	AR&SC	Group ISC	District Group	NESU ESU ISC Group	ESU ESD M Units	District MLC ISC Group Unit	CEU FD&CC MLC
Platform/Unit Level Logistics Manager	AIRSTA EO	Unit EO/EPO	Unit EO/EPO	Unit XO/ Supply Officer or EO/EPO	Unit EO/EPO	Unit EO/EPO	Unit EO/EPO
Configuration Data Manager	ARSC	ELC	District Group	ELC	ELC SMEFs M Units	G-SEC-2	G-SEC

FIGURE 3-1, Logistics Functional Roles (Cont.)

- B. **Training.** Having personnel with the proper skill sets on the ILSMT and other matrix teams is critical to the success of the logistics effort. Each LEM requires specific functional training (e.g., Reliability and Maintainability Analysis for the maintenance LEM and provisioning training for the supply support LEM). This training can be either formal or on-the job and should be funded and scheduled by the units and headquarters offices tasked with providing support. These units/offices shall ensure that personnel assigned to project ILSMTs have the function specific training and expertise required. Specific acquisition and logistics training required by this Manual for ILSMT members should be funded and provided through the acquisition project office. Each LEM shall be designated in writing with any training requirements identified. Figure 3-2 is a sample designation letter. The Project Manager may develop and provide tailored group training at one of the initial ILSMT meetings. The goal should be to eventually have a cadre of qualified personnel for each functional area to participate on ILSMTs and other matrix product teams. These personnel should be certified to at least level one of the Coast Guard's acquisition certification standards (see Acquisition Directorate SOP #11). Enclosure (2) sets forth minimum and recommended training for ILSMT members.

U.S. Department  
of Transportation

United States  
Coast Guard



Command  
United States Coast Guard

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Email: xxx

4081

## MEMORANDUM

From: **"Project Manager"**

Reply to  
Attn of:

To: **"LEM"**

Thru: **LEM's Command/Office**

Subj: DESIGNATION AS "ELEMENT" LOGISTICS ELEMENT MANAGER (LEM) FOR  
"PROJECT NAME"

Ref: (a) COMDTINST M4105.8

1. You have been designated as the "**element name**" LEM for the "**project name**". You should become familiar with the responsibilities listed in Chapter 3 of reference (a).
2. You should also review the training requirements and begin any courses you have not taken. Specific training objectives/requirements for your duties include:
  - a. ACQ 101

#

Date

### FIRST ENDORSEMENT

From: **"LEM's Command/Office"**

To: **"LEM"**

1. Forwarded for action.

#

FIGURE 3-2, LEM Designation Letter

## CHAPTER 4. INTEGRATED LOGISTICS SUPPORT (ILS)

*“As to government expenditures, those due to broken-down chariots, worn-out horses, armor and helmets, arrows and crossbows, lances, hand and body shields, draft animals and supply wagons will amount to 60 percent of the total.” Sun Tzu, The Art of War (6<sup>th</sup> Century B.C.)*

- A. **General.** All Coast Guard acquisition/modification projects shall include an ILS portion that begins at project initiation and continues throughout the life cycle of the asset. The quote above is as true today as it was then. The operations and maintenance costs of cyclically operated systems consumes nearly 60% of the total Life Cycle Cost (LCC) yet nearly 80% of the decisions that impact this cost are made in the system design phase. This graphically emphasizes the importance of the early application of an ILS program. The scope and level of detail of the ILS program may be tailored to meet specific project needs during the life cycle phases. ILS is a management discipline used to facilitate development and integration of the ten individual logistic support elements (see paragraph 4.D.) to acquire, field and sustain Coast Guard assets. It is an inherent part of the system engineering process. It includes efforts to design, introduce, and sustain materiel systems that conform to the capabilities and limitations of military and civilian personnel who operate and maintain them. The overall goal of the ILS program is to influence the design process and achieve fully supportable systems in current and projected environments that meet established operational and availability objectives at reasonable and affordable life cycle costs.
- B. **Objectives.** All elements of ILS must be developed in coordination with the system engineering effort and with each other. Evaluation of alternative support concepts and techniques to minimize cost and support risks must be made. This evaluation should be based on the readiness objectives, program objectives and constraints identified in the Mission Needs Statement (MNS), Operational Requirements Document (ORD), Acquisition Plan (AP), or other project documents appropriate for non-major projects. Trade-offs may be required between elements in order to acquire a system that is affordable, operable, supportable, sustainable, transportable, and environmentally sound within the resources available. ILS shall begin at the project initiation and continue for the life of the system/platform. The scope and level of detail for the program shall be tailored to meet specific project needs at each acquisition phase and throughout the life cycle. Logistics funding requirements must be identified and included in the overall project budget throughout the life cycle. Specific life cycle objectives for each phase are:
1. Acquisition: The MSAM sets forth additional guidelines and procedures for performing ILS for major acquisition programs during the acquisition phase.
    - a. Influence operational and materiel requirements, system specifications and ultimate design or selection (in the case of Commercial and Non-Developmental Items (CANDI)). This includes compliance with environmental regulations.
    - b. Define the support requirements best related to system design and to each other.
    - c. Develop, acquire, and deliver all support resources for initial operations.

2. Sustainment: Seek readiness and LCC improvements in the system and support systems. Replenish the support resources, as needed, to support the system.
3. Contingency: Ensure that systems have inherent survivability, can be rapidly reconstituted, and are flexible.
4. Disposal: Minimize environmental impacts and demilitarize, as applicable, to prevent unauthorized use.

C. ILS Planning and Management.

1. Project/Acquisition Managers shall establish and fund an ILS program that relates support to project readiness objectives, system and equipment design, acquisition and operating costs, and acquisition strategy. Specific responsibilities for major acquisitions are described in the MSAM. An ILS Manager should be designated to assist the Acquisition Manager in the management of the ILS planning process for non-major acquisitions. Projects scheduled for a formal test and evaluation program shall include provisions for technical and operational testing of ILS planning and products to assess the ability of the support system to perform its intended role.
2. The ILSMT shall review, coordinate, and integrate ILS program requirements. This group will also resolve ILS problem issues. Non-major acquisition may not need to establish a formal ILSMT, but some process to manage the ILS program shall be established.
3. Interim contractor support may be used until a phased transition can be made to organic support. Interim support will normally be used only when there is insufficient lead-time due to abnormal rapid development of the system or the system design is unstable. Organic support should not be developed until system design is stable. Improper planning, budgeting, or program execution are not typically considered as justifiable reasons for interim contractor support.
4. Commercial life cycle support for some or all of the ILS elements should be considered. This is especially true when:
  - a. There is a very small inventory that does not justify the cost to establish organic support.
  - b. The item is a CANDI product that is industry supported and duplicating the support is cost prohibitive.
  - c. The system or equipment is prone to rapid technological change and the support resources would continually change.
5. Supportability Analysis shall be considered throughout the life cycle to assess the system/equipment design and establish and update the support requirements. Chapter 6 describes the supportability analysis program/policy.

D. ILS Elements. The ten ILS elements are: Design interface (DI); maintenance planning; manpower and personnel; supply support; support equipment; technical data; training and training support; computer resources support; packaging, handling, storage and transportation (PHS&T); and facilities. The specifics for each element are discussed below.

1. **Design Interface (DI)** is one of the critical functions of logistics for developmental systems. It determines the inherent supportability of a system. This should be one of the first areas of focus in order to establish support related design parameters that can be expressed both quantitatively (e.g., Mean Time Between Failure (MTBF) and Mean Time to Repair (MTTR)) and qualitatively (e.g., human factors).
  - a. DI is the relationship of logistics design parameters, such as Reliability and Maintainability, to systems readiness resources requirements and support costs.
  - b. The primary purpose of DI is twofold. First, to ensure that logistic support considerations are a part of the design process; and second, to ensure that changes in system design during the various design and construction phases are reviewed for impact on logistics support.
  - c. DI includes several sub-elements. These sub-elements include Human Systems Integration (HSI), Environmental/HAZMAT, Quality Assurance (QA), Reliability, Maintainability and Availability (RM&A), Configuration Management (CM), Survivability, Standardization, and Safety.
    - (1) The HSI portion is the process used to identify, address, and manage human issues throughout the design, development, and support of systems and equipment. Examples of human issues include physical human factors which address the physical attributes such as height, weight, arm reach; physiological human factors which address vision, tolerance to temperatures, frequency range of hearing; psychological or behavioral human factors, which address mental reaction times, capabilities and limitation of short term memory. HSI ensures that properly trained Coast Guard personnel can perform the tasks required of the system in the proposed operating environment. The main objectives are as follows:
      - (a) Include HSI considerations as a major “source selection criteria” in evaluating contractor proposals.
      - (b) Develop equipment that maximizes human-materiel interaction within human physiological tolerance limits, minimizes training time, and allows for the greatest range of personnel aptitudes and skills.
      - (c) Select, define and develop human-materiel interface characteristics, workspace layout, work environment, and transfer of operator skills for similar tasks or equipment.

- (d) Determine human performance requirements and match available human aptitudes with appropriate training concepts to produce the required skills.
  - (e) Determine the numbers and types of personnel required to operate and support the system/equipment. Evaluate the Coast Guard's ability to provide the personnel and training required in the allotted time frame.
- (2) The Environmental/HAZMAT portion of DI is to ensure that system's design, development, testing, evaluation, operations, and maintenance comply with federal, state, and local environmental laws, regulations, policies, treaties, and agreements. Each project shall conduct an Environmental Safety and Health (ESH) analysis as required by the National Environmental Policy Act (NEPA) and Executive Order 12114. The analysis should address the elements listed below. Remember that local rules/regulations must be addressed. This could be especially important in the acquisition of multiple units that may be deployed to various locations.
- (a) Environmental Compliance
  - (b) System Safety and Health
  - (c) Hazardous Material
  - (d) Pollution Prevention
- (3) Quality Assurance (QA) is required to establish capable processes and feedback mechanisms, monitor and control critical processes and product variation, implement an effective root cause analysis and corrective action system, and continuous process improvement. Requirements for quality programs shall be stated in the statement of work. These requirements shall be stated in performance-based language. Refer to the ANSI/ASQC Q-9000 series or the ISO-9000 series standards as models.
- (4) RM&A establishes the basis for a comprehensive effort designed to ensure meeting mission needs and reducing life cycle ownership costs. Reliable systems result in increased capability while requiring fewer spare parts and personnel. Fewer people and specialized skills are needed if maintainability is designed into a system. These reductions result in lower life cycle costs. The following definitions apply:
- (a) Reliability is the probability that an item will perform its intended functions for a specified period of time under the stated operating conditions. Stated simply, it's how long the system can work. MTBF is commonly used to define the total functioning life of a population of item during a specific measurement interval divided by the failures during the interval.

- (b) Maintainability is the probability that an item will conform to specified conditions within a given period when corrective or preventive action is performed in accordance with prescribed procedures and resources. It is a key factor in the determination and sustainment of systems operational readiness and a contributing factor to the reduction of systems operational and support cost.
1. The amount of maintenance required is inherent in the design of the equipment/system. Maintainability pertains to ease, accuracy, safety and economy in the performance of maintenance actions.
  2. Corrective maintenance can be measured by Mean Time To Repair (MTTR) or how quickly and easily the item can be fixed. A broader measure that includes preventive maintenance is Mean Maintenance Time (MMT).
- (c) Availability is a measure of the degree to which an item is in the operable state at the start of a mission, even when the mission is called for at an unknown (random) time.
1. The primary availability measure for aircraft is the Availability Index (AI). AI is defined as the percentage of time that aircraft assigned to Air Stations are available to perform Coast Guard Missions. It is the result of all "Not Mission Capable" time subtracted from 100%. The target AI is 71%. A detailed definition of AI is provided in the Aeronautical Process Guide (CGTO-PG-85-00-110) from the Aircraft Repair & Supply Center.
  2. The measure used for vessels and other equipment is Operational Availability (Ao), which covers all time segments the equipment is intended to be operational. The appropriate facility manager normally determines the required availability for a system or equipment. Simply put, Ao is the uptime (the time the system is available for operations) divided by uptime plus downtime (or total time).
  3. While this simple formula provides an accurate Ao, it doesn't provide a means to determine how to increase the availability. To do this, the components of uptime and downtime must also be quantified. This is done through three factors: Reliability, Maintainability, and Supportability (the effectiveness of the logistics support system). Mean Time Between Maintenance (MTBM) represents reliability. MTBM considers both corrective and preventive maintenance that results in the system not being available. Mean Time To Repair (MTTR) or Mean Maintenance Time (MMT) is used to represent the maintainability factor. Mean Logistics Down Time (MLDT), which is the average time delay of the logistics system, represents supportability. Based on these three elements, the formula for

determining or predicting Ao is written as:  $Ao = MTBM / (MTBM + MTTR + MLDT)$ . As an example, consider the following: A vessel has 40 hours of preventive maintenance in the month of July. It also has one casualty, that requires ten maintenance hours; in addition, it takes twenty-four hours to receive the required repair parts. The total time, during the month, that the vessel is available for operations is 670 hours (744 hours in the month minus the 74 hours for maintenance and waiting parts). The MTTR is 10 and the MLDT is 24.  $Ao = 670 / 670 + 10 + 24$  which equals  $670 / 774$ . Based on these numbers, the Ao for the period would be 87%. While Ao is normally tracked over a longer period of time, it easy to see that by merely decreasing the time waiting for parts or preventive maintenance requirements would increase the availability.

- (5) CM is a basic business practice that provides for the traceability of a product's functional performance and physical attributes. It includes identifying items for which the form, fit and function require management; controlling changes to the configuration; auditing items for conformance to the applicable specifications; and recording the evolution of the configurations.
    - (a) Coast Guard CM policies are discussed in detail in several other Commandant Instructions, including Coast Guard Configuration Management During Sustainment, COMDTINST M4130.9 (series); Coast Guard Configuration Control Boards, COMDTINST M4130.10 (series); Coast Guard Configuration Management, COMDTINST 4130.6 (series); and Coast Guard Configuration Management for Acquisitions and Major Modifications, COMDTINST M4130.8 (series).
  - (6) Survivability is the ability to resist loss/damage under operating conditions. It enables a rapid restoration of the system, sub-system, component, or equipment. A survivability analysis should be accomplished early in the acquisition phase.
  - (7) Standardization is the use of the same or common items across multiple functions or applications where economically feasible. Use of standardization facilitates the interchangeability of equipment and parts and reduces training requirements. Additionally, standard interfaces allow for various systems to be linked or integrated. See Coast Guard Standardization Program, COMDTINST 4200.38 (series) for standardization policy.
  - (8) The safety program identifies and defines the probability and severity of the hazards associated with a system. A method for eliminating or reducing the hazard to an acceptable level shall be developed.
2. **Maintenance Planning** is an analytical methodology used to establish the maintenance philosophy of a system/equipment. Maintenance planning, of all the ILS elements, tends to be the one that has the greatest influence on the other elements



as well as on the actual design of the end product. It answers questions such as: What can go wrong, who will fix it, where will it be fixed, how will it be fixed, and how often will it need to be fixed? Maintenance plans such as maintenance support outlines and guides shall be developed for all end items.

- a. Users/sponsors and Project Managers/Project Officers shall identify a maintenance concept as soon as possible during the acquisition phase. Consideration should be given to contractor support and shall be part of the alternate support concept evaluation. The maintenance concept is a general statement that sets the broad parameters in which the support system must be designed. It also provides the initial description of maintenance requirements, considerations, and constraints for the system. It provides the baseline for the development of the maintenance plan.
- b. Maintenance plans are developed through the Supportability Analysis process described in Chapter 6. They must be maintained and updated throughout the life of the asset.
- c. The maintenance plan will identify the level at which an item will be replaced, repaired or discarded based on economic and non-economic considerations and operational readiness requirements. It will also identify the support requirements at each maintenance level. It will describe how the maintenance concept will be implemented and prescribe actions for each significant maintenance task that is required for the system. It will also explain technical requirements such as where and how maintenance will be accomplished, resource requirements, and significant consumables required. It will include:

- (1) Maintenance Concept
- (2) Preventive Maintenance Requirements
- (3) List of Maintenance Contracts
- (4) Level of Repair Analysis (LORA)
- (5) Technical Details for Repair Specifications
- (6) Interservice/Other Government Agency Agreements
- (7) Staffing Requirements
- (8) Warranty Issues
- (9) Auto Testing Capabilities
- (10) Modularity
- (11) Source, Maintenance, and Recoverability (SM&R) Codes
- (12) Identification of Configuration Items (Down to the Line/Lowest Replaceable Unit (LRU))

3. **Manpower and Personnel** is the identification and acquisition of personnel (military and civilian) with skills and grades required to operate, support, and maintain a system over its life cycle. Manpower addresses the human resource affordability of a system (i.e., the number of people needed, required levels of knowledge, skills, and abilities needed for optimal system performance) while personnel addresses the assignment of the right people to fill the billet requirements.
  - a. Manpower and personnel costs are large cost drivers. If additional manpower resources are required to support a new system, these requirements must be determined and requested early in the acquisition process. Any delays in identifying and obtaining the additional manpower can delay the establishment of an organic support capability. Logisticians and project officers shall ensure that manpower and personnel estimates are based on system design, or if they are a constraint, that the design meets the constraint. Estimates should include:
    - (1) Estimated total number of personnel required to provide training and to operate, maintain, and support the system.
    - (2) Any increases/decreases in military and civilian end strength requirements.
    - (3) Requirements versus authorizations and impacts of shortfalls.
  - b. Manpower and personnel requirements are determined through the supportability analysis process and manpower analysis. Several factors influence the manpower requirements. These include:
    - (1) Quantity of platforms/systems in use
    - (2) Sortie or deployment rate
    - (3) Required skills (the more diverse the skills, the more manpower required)
    - (4) Maintenance Concept
    - (5) Mission (multi-mission platforms may require additional manpower)
    - (6) System Reliability (drives maintenance manpower requirements)
4. **Supply Support** is all the management actions, procedures and techniques necessary to acquire, catalog, receive, store, transfer, issue, and dispose of secondary items (piece and repair parts below the major system level). It is the provisioning of spares, repair parts, and special supplies (such as consumables) to meet operational and maintenance requirements during the life cycle of a system, sub-system, component, or equipment. It includes provisioning for initial support and re-provisioning, as well as acquiring, distributing, and replenishing inventory spares and parts, and planning for direct and competitive spares procurement. The appropriate inventory control points (ELC/ARSC) are critical to a successful supply support effort. In conjunction with the logistician and project manager, they will develop a provisioning plan and strategy starting in the concept exploration phase of a project. The strategy should consider contractor support options either on a temporary or permanent basis. This group shall continue to work with the contractor to develop formal provisioning data,

the range and depth of spares and repair parts, and source, maintenance, and recoverability (SM&R) codes. The logistician shall ensure that Provisioning Technical Documentation (PTD) and allowance lists are developed, delivered, and updated as required. Chapter 6 of the Coast Guard Uniform Supply Operations Manual, COMDTINST M4121.4 (series), and chapter 7 of this Manual, describes the policy for provisioning Coast Guard equipment.

5. **Support Equipment (SE)** is all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes testing, measuring, diagnosing, calibrating, handling, securing, and repairing systems, sub-systems, components, and equipment. Support equipment is absolutely essential for the continued operation and mission performance of Coast Guard systems. Supportability investments for systems should extend across the logistics spectrum. Logisticians and project managers shall establish requirements for support equipment in performance-based terms. The use of commercial products to the maximum extent possible is recommended. SE includes, but is not limited to:
  - a. Tools (torque wrenches, manufacturing fixtures, bore scopes, etc.)
  - b. Special Purpose Test Equipment (SPTE)/Special Purpose Electronic Test Equipment (SPETE)
  - c. Calibration Equipment (oscilloscopes, voltmeters, etc.)
  - d. General Purpose Test Equipment (GPTE)/General Purpose Electronic Test Equipment (GPETE)
  - e. Automatic Test Equipment (ATE)
  - f. Ground Support Equipment (GSE) (maintenance stands, generators, service carts, etc.)
  - g. Logistics support for the support and test equipment itself
6. **Technical Data** is recorded information regardless of form or character (such as PTD, manuals, maintenance procedures, special test procedures, change notices/procedures, training curriculum, and engineering drawings) of a scientific or technical nature. Technical data provides information needed to translate system and equipment design requirements into discrete engineering and logistics considerations. Computer programs and related software are not technical data. Documentation of computer programs and related software may or may not be. When necessary to make such a determination, seek advice from contracting and procurement law officials. Financial data or information related to contract administration is not considered technical data.
  - a. Technical manuals and engineering drawings are the most expensive and probably the most common technical data acquisitions made in support of a system. The Naval Engineering Manual, COMDTINST M9000.6 (series), Chapters 085 and 086 and Naval Engineering Computer Aided Design Standards, COMDTINST M9085.1 (series), set forth the requirements for these types of technical data for

cutters and boats. The Electronics Manual, COMDTINST M10550.25 (series) establishes the requirements for technical manuals for electronics equipment and the Aeronautical Process Guide (CGTO-PG-85-00-110) identifies the aviation technical data requirements.

- b. Logistics efforts should strive to optimize the quantity, format, and interchangeability of technical data. Data requirements should be consistent with the planned support concept and represent that data which is essential to effectively support the fielded system. The goal is to provide the most current data, in the correct format, to support the deployed asset and training systems. Data should be compatible with existing Coast Guard information processing systems (i.e., Naval Engineering Technical Information Management System (NE-TIMS)). This means the technical data will normally be procured in electronic format. The logistician and project manager must be aware of data rights and how they affect the use of the technical data. A Technical Manual Contract Requirement (TMCR) or equivalent shall be developed for acquisitions that include technical manuals.
7. **Training and Training Support** consists of the processes, procedures, techniques, training devices, equipment, and materials used to train Coast Guard active duty, reserve, and civilian personnel (both individuals and crews) to operate and support a system/equipment throughout its life cycle. This also includes logistics support for training equipment and training device acquisitions and installations. Generally there are three types of training:
- a. Initial training used to qualify individuals and introduce them to the basic principles of the subject matter. (Pipeline, Personal Qualification Standards, etc.). For acquisitions, this is normally contractor provided to the personnel who will initially operate and support a new system.
  - b. Follow on training which is a more advanced degree of training for the same areas covered in the initial training. (Team Training, C Schools, etc.)
  - c. Continuing training, which is usually limited to unique requirements in a given skill, such as a significant modification to a system that requires new procedures.
8. **Computer Resources Support** consists of the internal and external facilities, hardware, software, personnel, and other resources needed to support software intensive systems. As systems become more technical in nature, this element becomes more important. It can be a very large portion of the system life cycle cost. Computer resources support crosses the lines of responsibility of other elements, such as facilities and manpower. Personnel responsible for procuring computer resources shall ensure that all issues regarding facilities, hardware, software (both system and support), documentation, data rights, personnel and other resources necessary to operate and support computer systems and software intensive systems are addressed in this element.

9. **Packaging, Handling, Storage and Transportation (PHS&T)** are the requirements, resources, processes, procedures, design considerations, and methods necessary to ensure that all systems, equipment, and support items are preserved, packaged, handled, stored, and transported properly. The analysis includes determination of environmental considerations, preservation requirements for short and long-term storage, transportability (the inherent design capability of an item to be moved from one location to another), and methods to ensure elimination/minimization of damage to the equipment. PHS&T requirements should be addressed for major acquisitions and as required for other systems/equipment. They should include data on size and shape, weight, humidity and temperature ranges, storage time limits, and any shock/vibration limitations. It should identify any hazardous material, electro-static discharge, any special transportation requirements, and requirements for performance oriented packaging (drop test, stacking, leak proof, etc.). PHS&T may not seem particularly important, however, the entire logistics chain may depend on how well the requirements for an item's movement and protection are defined. One of the prime logistics functions is supply. The delivery of a system or equipment that is damaged is as bad or worse than not delivering it at all. For systems and equipment to be effective they must be delivered fully functional in a protected, ready-to-use condition. Best commercial standards and practices should be the basis for most PHS&T requirements.
10. **Facilities** are the permanent, semi-permanent, or temporary real property assets required for the support of a system. This element includes conducting studies that define facilities and facility improvement, locations, space needs, utilities, environmental requirements, real estate requirements, and equipment. The requirement may include new construction as well as modifications or renovations to existing facilities. They can range from a simple addition of electrical power to an existing work area to the design and construction of a multi-million dollar project.
- a. Facility construction and modification is usually funded separately from the acquisition of a system or equipment. This funding is generally through the Acquisition, Construction and Improvement (AC&I) and Planned Obligation Program (POP) processes and can take three to five years for approval. Program managers should strive to minimize or eliminate requirements for facilities. When the need for facilities is demonstrated, the use of existing ones should be maximized. These requirements can be identified through site surveys.
  - b. Site surveys are normally conducted to evaluate existing versus needed facilities and identify the shortfalls. Several areas must be considered as part of the site survey. These include:
    - (1) **Compatibility:** Is the facility compatible with the system and planned support equipment? Consider power requirements, interface connections, size, weight, etc. Dockside equipment and capabilities are paramount considerations for vessels, while items such as runway length and hangar size should be considered for fixed winged aviation assets.

- (2) Human Factors: Ensure that personnel can operate effectively and efficiently. Consider, for example, temperature control, noise levels, space and safety.
- (3) Accessibility: Make sure that equipment can be moved in and out of the facility easily. Also consider handicapped access.
- (4) Security: Ensure that the right form of physical and information security (Emissions Security (EMSEC) shielding/soundproofing) is available.

## CHAPTER 5. THE INTEGRATED LOGISTICS SUPPORT PLAN (ILSP)

*"Logistics We Holler,  
Cost Many a Dollar,  
So Leave It to Last  
'Cause We're so Short of Cash."*

Anon.

- A. Discussion. Historically, the ILSP dealt only with the acquisition process of an asset. The ILSP became obsolete and was replaced by the Operational Logistics Support Plan (OLSP) once the project reached the production phase. This often led to a gap in the logistics support and the loss of key information. Since much of the information in the two documents is the same, the requirement for an OLSP is deleted. The ILSP is the primary logistics document for Coast Guard systems. It will be continuously updated and will apply throughout the acquisition and life cycle of the asset.
- B. General Procedures. The procedures for ILSP development set forth in the MSAM shall apply to all equipment or systems acquired through the non-major or major acquisition processes. Equipment or material procured through the simplified acquisition process is not included. While ILSPs are generally considered as new acquisitions documents, platform managers should consider their use for existing systems. The ILSP shall describe, in detail, the necessary logistics support activities for each ILS element and assign responsibility for those activities. The sustainment ILSP shall be in electronic format and posted on the equipment/system manager's website. It will include appendices such as Equipment/System Integrated Logistics Support Plans (EILSPs), Preventive Maintenance documents, Resource Proposals, Time Compliance Technical Orders (TCTOs), Maintenance Support Guides/Outlines, Cutter Class Maintenance Plans, and Master Training Plans. EILSPs are a vital part of the ILSP. The appropriate equipment/systems manager shall draft EILSPs, for any equipment that meets the requirements set forth in Equipment/System Integrated Logistics Support Plan and Equipment Support Sheet Development and Maintenance Responsibilities, COMDTINST 4105.7 (series). These EILSPs will be included as appendices to the ILSP.
  1. Major Acquisition Procedures. Once the ILSP has been updated and approved at transition, the appropriate platform/system manager and the Project Manager will ensure that support issues for any assets that are in operation or due for delivery are addressed. When both are satisfied that all the sustainment issues are addressed and planned for, they will prepare a joint memorandum to Commandant (G-CCS, G-A and the responsible sustainment directorate). This memo will state that the platform manager has assumed the chair of the Integrated Logistics Support Management Team (ILSMT) and that the ILSP has been transferred to the platform manager and ILSMT. The memorandum will detail any funding and unresolved sustainment issues. It will also state if there are any departures from policy and how these departures will be handled. Copies will be sent to Commandant (G-W and G-O). Subsequent updates to the ILSP shall be endorsed by Commandant (G-S, G-O and G-W) and signed by the headquarters directorate responsible for sustainment support. The ILSMT will follow the guidelines in this Manual to update and maintain the ILSP

for sustainability and disposal. The MSAM provides a template and guidance for updating the ILSP.

2. Non-Major Acquisition Procedures. Non-major acquisitions can be either minor or intermediate. They are normally in the cost range of \$100K to \$50M and are designated for a level of project management above that of a simplified acquisition, but below a full-scale project office. They require some level of planning to be successful. An ILSP, tailored to fit the acquisition, will be prepared for these acquisitions. The requiring office, using the same format as that of major acquisitions, will normally write the ILSP and determine if an ILSMT is required. The Platform Manager will provide advice and input for the initial ILSP. Once the assets are acquired, the Platform Manager will assume the same responsibilities as those described for assets purchased through the major acquisition process. Some formal hand-off, with associated documentation, should be considered.
- C. ILSP Requirements for Sustainment. There are some ILS element details that are required for sustainment in addition to those set forth in the MSAM. The additions/updates required and the elements they pertain to are listed below.
1. Design Interface. Identify the support related design parameters. These parameters should be expressed both quantitatively (e.g., Mean Time Between Failures (MTBF) and Mean Time To Repair (MTTR)) and qualitatively (i.e., human factors) in operational terms. They should also specifically relate to system readiness objectives and the support costs of the system.
  2. Maintenance Planning. Describe the maintenance concept for each level (organizational, intermediate and depot) and the process used to determine it. Include any alternatives considered. For cutters, the Cutter Class Maintenance Plan (CCMP) should be attached as an appendix and web link. For aircraft, include the airframe maintenance plan. Include and describe any interim, special, or unique support procedures and program constraints or requirements. Provide information concerning the maintenance requirements in each of the maintenance types that are applicable. Identify any contractor provided maintenance and effective dates of the contract. The three types of maintenance are:
    - a. Preventive Maintenance. Preventive maintenance is also referred to as planned maintenance. It consists of inspection, servicing, and time change tasks that are routinely and systematically scheduled for the purpose of preventing equipment/system failures that might diminish the operation and safety of the system/platform. Preventive maintenance may be condition based, as well as frequency based. It includes actions usually referred to as facilities maintenance, such as routine painting on vessels and fixed structures. Preventive maintenance may be accomplished by the crew or other personnel assigned in direct support of the operating unit. It may include heavy maintenance tasks requiring assistance from a depot maintenance level.



- b. Corrective Maintenance. Corrective maintenance consists of actions to repair equipment, systems, hull, and structure. It is basically random in both time and severity. Corrective maintenance is applicable to all hardware items. The amount and severity of corrective maintenance required may be minimized considerably by preventive maintenance.
  - c. Alterative Maintenance. Alterative maintenance is maintenance required to implement an approved engineering change or time compliance technical order.
- 3. Supply Support. If Coast Guard support is not available, provide the date it will be. Describe any Contractor Logistics Support (CLS). Provide supportability analysis results, supply support documentation, provisioning list and other PTD per Chapter 6 of the Coast Guard Uniform Supply Operations Manual COMDTINST M4121.4 (series), and Chapter 7 of this Manual.
- 4. Training and Training Support. List any performance or front-end analysis conducted to determine appropriate options for training and other performance interventions and costs for essential training resources to address them. List any required training, training equipment, and other performance interventions.
- 5. Support Equipment. Identify the equipment required to maintain items, systems, or facilities at the required operational level in the intended environment. Include all the equipment necessary to test, measure, diagnose, calibrate, handle, secure and repair systems, sub-systems, components, and equipment. Define the test, evaluation, calibration, inspection, and fault isolation capabilities/requirements of the equipment.
- 6. Manpower and Personnel. Identify the type and quantity (by rate and rating for military or grade and series for civilian) of personnel required to safely and effectively operate, maintain and support the system. Include support billets attached to other units. This information should be included as a manpower requirement study, crewing study or staffing standards analysis report per the Staffing Standards Manual, COMDTINST M5312.11 (series) and the Personnel Allowance List.
- 7. Computer Resources Support. List all interface requirements. Identify sub-systems that have embedded software/firmware. Include any constraints or special considerations identified. Identify the activity assigned responsibility for managing the software (providing life cycle support for updating/maintaining system software). Identify any interim support, warranty, or other special support required and detail how to obtain it. For embedded computer resources, identify and describe the facilities, hardware, system software, software development and support tools, documentation, and personnel needed to support them.
- 8. Technical Data. Identify the Technical Manuals (TMs) and drawings required to support the system or equipment installed aboard the vessel, aircraft or ashore by type, publication number and title. A link to specific index tools such as NE-TIMS or the Aviation Technical Information Management System can be provided in lieu of detailed lists. Specifically list any documents not delivered. State the anticipated

delivery date and source for these documents and identify specific interim measures for overcoming this lack of data. Identify all software documentation to be delivered. Identify who is responsible for approving future technical data, the approval procedure, and who will maintain the data.

9. Logistics Milestone Events. Identify the milestones associated with the transition from an acquisition to sustainment. This includes first production delivery, Initial Operational Capability (IOC), Material Support Date (MSD), and Coast Guard Support Date (CGSD). Identify any risks that may preclude achievement of these milestones. Identify any future milestones. List the organization responsible for the events and the scheduled dates.

## CHAPTER 6. SUPPORTABILITY ANALYSIS

*“With all appliances and means to boot.”* (W. Shakespeare, King Henry IV)

- A. General. Supportability analysis occurs during the acquisition phase. In the past, the Coast Guard required project managers to consider the use of Logistic Support Analysis (LSA) for major acquisition projects. LSA was a formal, structured process with tasks dictated by a Military Standard (MIL-STD-1388-1A). It required contractors to perform specific tasks, record the results in a database, and submit the data in a specified format. Essentially we told the contractors what to do, how to do it, how to record it, and how to report it.
1. Recent acquisition reforms led to a fundamental change in the way data requirements are levied on a contractor. We have gone from telling the contractor what to do, to indicating what performance is desired. For example, we may still require a well-developed and effective maintenance plan or failure data from a Failure Modes Effect and Criticality Analysis (FMECA) but we will not require the contractor to use a specific analytical tool to develop them.
  2. The requirement for analysis reports will be clearly addressed in contractual terms. MIL-PRF-49506, Logistics Management Information (LMI), is a performance specification developed to assist in drafting the requirements. It provides examples of information that may be required to address the ILS elements.
  3. The ILSMT will tailor the LMI examples to fit the support needs of the asset. The Project Manager or office responsible for the acquisition of an asset shall determine the extent of the analyses. They will base their determination on the analytical and data requirements of the operational and support program managers. They will work closely with the contractor and contracting officer to determine the format and means of delivering (media) the data. Submission of digital data, compatible with existing Coast Guard systems, via electronic means, should be stressed.
  4. Tailoring and format decisions shall be noted in the ILSP.
- B. Requirements. LSA, or supportability analysis and the information derived from it, are still required, but a specific method of conducting the analysis shall not be imposed on the contractor. The Coast Guard shall avoid imposing unique requirements that may significantly increase contractor compliance costs. Data will be treated, as a product, with characteristics and qualities, just like hardware. The data requirements shall be consistent with the planned support concept and shall be coordinated between elements to minimize redundancies and inconsistencies. Specific data entry tools may be identified.
- C. Systems Engineering and Supportability. Supportability factors must be integrated with, and be part of, the system engineering process described in Chapter 2. Maintainability and supportability goals are best achieved by addressing support requirements as elements of the tradeoff and decision criteria. The factors must be considered in an organized manner for each applicable logistics support element. The data derived from the initial analyses should be the basis for decisions on logistics support.

D. Data Products. The data products of LMI roughly correspond to the ILS elements described in Chapter 4. The information for each is typically provided by the contractor through LMI summaries in response to Contract Data Requirements List (CDRL) items included in the contract. The summaries contain information needed to assess design status, conduct logistics planning/analysis, influence program decisions, and verify that the contractor's performance meets system supportability requirements. The recommended products and the information that should be required from each summary are listed below.

1. **Maintenance Planning:** The information from these summaries is associated with repairable items to the level of detail specified in the contract. It is used to develop the initial plans for the support structure and to verify that the maintenance actions and support structure are aligned with the maintenance concept.
  - a. The items should be identified within the hierarchy of the end item broken down by the chosen configuration control method.
  - b. The summary should identify all preventive and corrective maintenance actions along with the personnel (ratings and numbers), spares and support equipment required to perform each task.
  - c. The summary should also provide supporting information justifying the need for each maintenance action (i.e. failure modes, elapsed time of maintenance actions, task frequency, failure rate, and MTTR).
2. **Repair Analysis:** These summaries should include recommendations for influencing the system design.
  - a. They should also include a listing of which items should be repaired and which should be discarded. For repairable items, the level at which repairs will be accomplished and associated costs should be provided.
  - b. The summaries should identify the system support structure, the placement and allocation of spares, required support equipment, and personnel required.
  - c. The information used to conduct the analysis should be provided (i.e., a list of the input data, any operational scenarios used for modeling, assumptions made, constraints and non-economic factors imposed, alternatives considered, the analytical method and model used to perform the economic evaluation, and any sensitivity evaluations performed).
3. **Support Equipment:** The data from these summaries is used to update the Coast Guard's inventory records. The information should include details of any Test Measurement and Diagnostic Equipment (TMDE) calibration procedures, technical parameters, and any support equipment needed to support the system support equipment. Include any common uses across systems for the equipment.

4. **Supply Support:** Information from these summaries is used to determine initial requirements and cataloging of support items.
    - a. The information should include the identification of the system breakdown, maintenance coding, maintenance replacement factors, overhaul rates, design change information, and associated technical manuals.
    - b. The summaries should show information on different categories of provisional items such as long lead items, bulk items, and tools and test equipment.
  5. **Manpower, Personnel, and Training:** These summaries are used to establish training plans and ensure manpower and personnel requirements are identified and provided. The summaries should include corrective and preventive maintenance tasks, operations tasks, manpower estimates for each task, personnel skills required to perform the tasks, and any required training or human performance interventions.
  6. **Facilities:** These summaries identify the facilities required to maintain, operate, and test an item, and those required for training. The data must comply with all applicable national health, life and environment codes. National standards and terminology used by industry for civil, electrical, mechanical, etc., specialties should be used.
  7. **PHS&T:** These summaries list PHS&T requirements. They provide information related to the development of a transportability analysis report.
  8. **Post Production Support:** These analyses are conducted on the life cycle support requirements before production ends.
    - a. Information from the analyses is used to ensure the continued attainment of readiness and supportability objectives with economical logistics support after the production ends.
    - b. Support items associated with the assets that are potential problems due to inadequate sources of supply, support capability, or design changes are identified. The summary provides alternative solutions for anticipated support difficulties.
- E. **Tailoring.** These requirements are not all-inclusive or exclusive, and should be tailored based on the system/asset supported. If a government provided layout is chosen, the specific summary layout must be attached to the applicable CDRL in the contract. Figure 6-1 is an example of an LMI summary worksheet.
1. It may be more cost effective to allow the contractor to propose a layout and later make modifications if required. The use of the worksheet is not mandatory, but some method of defining supportability analysis summaries should be used. The level of details for each analysis should be specified in the contract.

2. Specific content and timing shall be defined on the Supportability Analysis Summaries Worksheet (Figure 6-2). These sheets may list a specific summary or call out an individual element of a summary. For example, a summary can be required for training for CAT engines instead of a manpower, personnel, and training analysis.
3. Appendix B of MIL-PRF-49506 lists many standard data products along with definitions and format criteria. These may be called out for delivery using the "Data in LMI Specification" portion of the worksheet.
4. If additional data is required, it should be listed, along with a definition and format, in the "Data not in LMI Specification" section. The last part of the worksheet identifies whether a government or contractor provided format for the summary will be used.

MAINTENANCE PLANNING SUMMARY			
GENERAL PLAN:			
RATIONALE:			
PREVENTIVE MAINTENANCE REQUIREMENTS SUMMARY:			
FEDERAL GROUP CODE	ACTION	ESTIMATED TIME	MAINTENANCE LEVEL
CORRECTIVE MAINTENANCE REQUIREMENTS SUMMARY:			
FEDERAL GROUP CODE	ACTION	ESTIMATED TIME	MAINTENANCE LEVEL
RESOURCE REQUIREMENTS:			
FEDERAL GROUP CODE	ACTION		
REQUIREMENTS FOR SUPPORT ITEMS:			
ITEM NAME	QTY/ACTION	REFERENCE NUMBER	CAGE CODE

FIGURE 6-1, LMI Summary Worksheet

SUMMARY TITLE:		
SPECIFIC INSTRUCTIONS:		
DATA IN LMI SPECIFICATION (Provide the data product title.):		
DATA NOT IN LMI SPECIFICATION (Provide the data product title, its definition, and format.):		
SUMMARY LAYOUT (if applicable): Government Provided <input type="checkbox"/> Contractor Provided <input type="checkbox"/>		

FIGURE 6-2, Supportability Analysis Summary Worksheet





## CHAPTER 7. PROVISIONING

*“For the want of a nail the shoe was lost, For the want of a shoe the horse was lost, For the want of a horse the rider was lost, For the want of a rider the battle was lost, For the want of a battle the kingdom was lost-And all for the want of a horseshoe nail.”*

Benjamin Franklin from Poor Richard's Almanac

- A. Overview. Provisioning is defined as the process of determining the range and depth of repair parts, which are required to support an end item. This includes initial support as well as levels for life cycle support. Reprovisioning is done throughout the life cycle. The Coast Guard can ill afford to over or under provision assets. The level of supply must match the assigned maintenance levels and the frequency and criticality of need.
1. Provisioning must be addressed in the early stages of any acquisition in order to determine the supply support requirements and provide items prior to the Coast Guard Support Date. Reprovisioning must be done in response to changes in equipment.
  2. Provisioning efforts must consider all items, such as spares and repair parts, special tools, test equipment or support equipment, and consumables such as special lubricants or bulk materials.
  3. A major part of the process is deciding on a maintenance concept and determining the maintenance level (organizational, intermediate and depot) for each end item. This must be accomplished prior to the provisioning effort. See Chapters 4 and 6 for additional information on maintenance planning.
- B. Provisioning Information. Provisioning Technical Documentation (PTD) consists of various types of provisioning data. If PTD is required, the requirement must be specified in the procurement contract by invoking the applicable performance specification.
1. The level of detail for the PTD depends on whether the equipment has parts that wear-out, fail, require replacement, or require maintenance (see maintenance plans and level of repair determinations for this information). PTD includes:
    - a. Engineering Data for Provisioning: The recorded scientific or technical information (manuals, drawings and specifications) that support the PTD.
    - b. Provisioning Parts List: This portrays the physical composition of an end item that has been determined to be configuration worthy and repairable. It shall be in a logical order, such as top-down breakout and show information such as part number/name, quantity in the equipment, etc. The PPL should contain a list of all parts subject to wear or failure and any equipment required for maintenance.
    - c. Long Lead Time Items List: This is a list of items, generated after lowest repairable/replaceable units have been identified, that require long manufacturing lead-time or for which limited production capability exists. It should be received in advance of other PTD to allow early ordering of the items.

- d. Repairable Items List: This lists repairable items identified within the hierarchy of the end item broken down by an agreed upon configuration control method.
  - e. Tools and Test Equipment List: This is a list of the support items, such as test sets, that are used to inspect, test, service, calibrate, or repair an end item.
  - f. Interim Support Items List: This is a preliminary provisioning parts list which is used to determine if any parts require interim support if the normal provisioning process cannot be completed prior to the operational use of a platform/equipment. It is usually a "best guess" based on experience and may be used to develop a preliminary allowance list.
  - g. System Configuration Provisioning List: This list establishes the work breakdown relationships of the components of an end item. It is normally used to check configuration integrity.
2. PTD or supportability data is requested through two Data Item Descriptions from the Logistics Management Information performance specification, MIL-PRF-49506.
  3. A Statement of Prior Submission (SPS) may satisfy the requirement for PTD. A contractor submits an SPS in lieu of PTD whenever previously submitted PTD may meet the requirements of the contract. It certifies that the information has previously been submitted to, and accepted by the government.
  4. A Provisioning Technical Documentation Submission Schedule will be used to plan the PTD submissions. It shall outline, in a month/percent illustration, the planned submittals. It shall also denote critical PTD that must be submitted in ratio to the physical construction of an end item.
  5. A Provisioning Performance Schedule shall be used to summarize key provisioning events and milestones. It shall identify the end item, contractor, solicitation or contract number, conference dates, and delivery dates for parts lists and other PTD deliverables.
- C. Provisioning Policy. Provisioning shall be accomplished for all new systems requiring organic maintenance and/or operational supply support. PTD shall be required if the Coast Guard will provision the system. Waivers of provisioning requirements, either during negotiations or after contract award, are not normally allowed.
1. Provisioning activities shall have a documented provisioning process.
  2. Provisioning and the associated allowances shall be based on clearly defined readiness objectives, maintenance philosophies, available resources, and the appropriate provisioning model. Departure from the provisioning model must be approved by the sponsor or acquisition project manager and documented for future reference.

3. An exception to the provisioning policy is when a project or appropriate support manager determines, for whatever reason, that documentation and supply support are not required. This determination must be in writing and placed on file.
  4. Provisioning shall be a life cycle process with reprovisioning being accomplished as determined through the supply support review program.
- D. Provisioning Responsibilities. Coast Guard provisioning responsibilities are defined in the following paragraphs.
1. Acquisition Project Managers (major acquisitions) or Project Sponsor (other acquisitions) shall:
    - a. Obtain inputs from the applicable provisioning activities concerning provisioning requirements.
    - b. Ensure that correct and complete provisioning requirements, appropriately tailored, are included in the contracts/purchase documents for systems or equipment or engineering changes.
    - c. Require systems integrators and manufacturers to include the requirement for PTD in their subcontracts.
    - d. Plan, program, and budget for the acquisition of required PTD.
    - e. Monitor the submission schedule of PTD to the provisioning activity.
    - f. Monitor the technical support manager's and provisioning activity's progress.
    - g. Establish and chair (or delegate chair authority) provisioning conferences. Hold a provisioning guidance conference, usually within 90 days after a production contract award.
    - h. Establish and participate in provisioning Integrated Product Teams.
    - i. Develop the Provisioning Technical Documentation Submission Schedule and track progress with the Provisioning Performance Schedule.
    - j. Develop maintenance philosophy outline and maintenance guide.
    - k. Measure the adequacy of the provisioning process.
  2. Technical Support Managers. These are normally Commandant (G-SEN, G-SEA, G-SCE, and G-SCT) and the Maintenance and Logistics Commands. They shall:
    - a. Provide engineering representation, as applicable, for technical matters pertaining to provisioning.

- b. Coordinate resource requirements with provisioning and maintenance activities for maintenance and supply support as required.
  - c. Assist with the development of maintenance philosophies and concepts and the assignment of SM&R codes. Develop maintenance guides.
3. Provisioning Activities. The primary Coast Guard provisioning activities are the Engineering Logistics Center (for HM&E and electronics) and the Aircraft Repair & Supply Center (for aviation assets). For assigned projects/acquisitions they shall:
- a. Develop internal provisioning policies and practices.
  - b. Provide provisioning contract control numbers to the PTD submitter(s).
  - c. Receive PTD from the system integrator or system/equipment manufacturer.
  - d. Review and verify PTD and technical coding in accordance with the contract data requirements list, data item descriptions, and the maintenance plan.
  - e. Determine supply support configuration/allowance parts list worthiness.
  - f. Assign SM&R codes based on approved maintenance concepts.
  - g. Provide budget inputs for both initial provisioning and projected system stock requirements.
  - h. Participate in provisioning conferences and meetings.
  - i. Ensure equipment identification; assign Equipment Identification codes as required.
  - j. Build initial outfit lists.
  - k. Perform Federal Logistics Information System screening.
  - l. Coordinate national stock number assignments for new supply items.
  - m. Initiate Interservice Support Agreements with other government agency item managers for support of items already managed in the federal supply system.
  - n. Build complete and accurate allowance documents that reflect the approved support and maintenance philosophies, concepts and plans.
  - o. Prepare and provide status reports as required.
  - p. Inventory and/or stage supply support materiel as directed.
  - q. Fit-out platforms/end items as required.

- r. Coordinate the selection of the best provisioning method with the project manager or sponsor and the technical support manager.
  - s. Maintain a supply support review program for each platform under their cognizance. Supply support reviews shall ensure that adequate supply support is in place. As platform operational mission and/or maintenance requirements change, the initial supply support projections may no longer meet program requirements.
  - t. Provide inputs concerning provisioning requirements for use in establishing contract requirements.
4. Project Resident Offices (when established). Project Resident Offices are normally established at the contractor facility for major acquisitions. They shall:
- a. Ensure that contractual provisioning obligations are achieved.
  - b. Establish direct liaison with provisioning activities.
  - c. Validate end items, systems, equipment and components, prior to Coast Guard acceptance, to ensure the PTD submitted reflects them.
  - d. Participate in provisioning conferences.
5. Manufacturers and Contractors. The manufacturer, system integrator or contractor shall be tasked, through the contract, with:
- a. Developing or procuring and delivering the PTD required by the contract.
  - b. Including the same provisioning information requirements established under the contract into vendor/subcontractor contracts.
  - c. Obtaining, in writing, from vendors and subcontractors, confirmation that the vendor/subcontractor will comply with the data requirements or a letter of refusal if they do not intend to comply.
  - d. Participating in provisioning conferences and activities as required.
- E. Provisioning Methods. The Coast Guard will make provisioning decisions based on one of three provisioning methods. Each one has its merits and limits. The provisioning activity shall consider factors such as the IPT structure, physical location of the sponsor and contractor, the end item design, size, maintenance concept and special parts requirements. The three methods are.
- 1. Conference Team method is the establishment of a government team consisting of functional experts from areas such as cataloging, requirements determinations, and SM&R coding. It is most often used for contracts when the majority of the materiel is government furnished but may be suitable for highly complex projects.

2. In-House Provisioning involves members of the provisioning team performing provisioning responsibilities at their respective command/organization.
  3. Resident Provisioning Team is the establishment of a permanent provisioning team at a contractor's facility, with specialists assigned on a temporary basis as needed.
- F. Special Provisioning Techniques. There are special provisioning techniques that can be used to mitigate risks. These techniques should be considered on a case-by-case basis. They include:
1. Phased Provisioning, which allows the purchase of initial spares to be deferred until the later stages of a system's/end item's production. It is normally used for high cost items when the design is not stable.
  2. Accelerated Provisioning is used when there is not enough time to complete the provisioning process before initial spares are required. Critical sparing issues are addressed and completed during the provisioning conference. The items considered are based on the established Interim Support Item List. This technique may require additional resources.
  3. Interim Release is used to allow a contractor to begin production of an item early when the production lead-time is greater than the time between the provisioning conference and when the item is required.
  4. Spares Acquisition Integrated with Production is the practice of combining orders for spares with orders for production.
- G. Provisioning Conferences. There are several types of provisioning conferences that must be held to successfully provision an end item. Not every type is required for all projects, but as a general rule, the following should be held as needed.
1. Provisioning Guidance Conferences are normally required to be held within 90 days after a production contract award for all major acquisitions and any less than major projects that require PTD. The Project Manager, the contracting officer, the provisioning activity, and the contractor should attend it. The focus should be to ensure an understanding of the contract provisioning requirements. It should include discussions on maintenance concepts, provisioning techniques, item identification, design changes, and PTD delivery schedules.
  2. Preparedness Review Conferences are normally held only when the contractor has no prior experience with the Coast Guard's or DOD's provisioning process. It should be used to determine the contractor's readiness for the provisioning conference.
  3. Provisioning Conferences are held to discuss specific requirements and data needed to make provisioning and supply decisions. Attendance is normally members of the project staff, provisioning experts, the ILS manager, and contractor's technical personnel. Existing drawing and provisioning and technical data is reviewed and

requirements for additional data are determined. The assignment of technical and supply coding is normally initiated here.

4. General Conferences are optional conferences that can be scheduled as needed. They are normally held to discuss problems or issues that arise during the provisioning process.
  5. Long Lead Time Items Conferences are held to determine which parts may require extended manufacturing or delivery time periods.
  6. Interim Support Item Conferences are held when interim support is or may be required. The Interim Support Item List is developed and responsibilities are established.
- H. Data Format and Transfer. It is imperative that data format requirements and a plan to transfer the data from the contractor be developed. The information will generally be delivered in an electronic database, which can be uploaded to existing Coast Guard databases. The contractor shall be permitted wide latitude in the choice of computer applications to gather provisioning data. However, the data must be delivered in a format that is compatible with applicable Coast Guard databases. The Coast Guard may furnish a system for use by the contractor.





## CHAPTER 8. SOFTWARE LOGISTICS

*"As a rule, software systems do not work well until they have been used, and have failed repeatedly, in real applications". Dave Parnas*

A. General. Software is present in or used with almost any modern equipment/systems used by the Coast Guard. It is a set of coded computer instructions and associated procedural data that directs computer hardware to perform computations or control functions.

1. The basic logistics concepts that apply to equipment and systems also apply to software. Design criteria for supportability must be established, reliability and maintainability should be addressed in detail, and safety concerns must be considered. In short, each of the ten elements of logistics support should be applied for software, and tailored for each acquisition, just as for hardware.
2. Software must be managed and developed using best practices and processes in order to reduce cost, schedule and risk. This includes developing software that supports open system concepts and provides for incremental improvements, selecting contractors with experience in developing successful, comparable software, and using software metrics.

B. Software Unique Considerations. Although the concepts for hardware apply and are similar, there are some key differences.

1. Software does not fail in the same manner as hardware. Hardware usually degrades over time as components wear out. Software errors are problems that exist from the original development or are induced through a corrupting agent. The error occurs when the software does not do what the user reasonably expects it to. These problems may not manifest themselves immediately. Additionally, the solution for the error may introduce other errors or potential for failure into the software.
2. Software does not wear out, so technically there is no software maintenance. The efforts to correct software problems are part of software support. The Institute of Electrical and Electronic Engineers defines software support as "modification of a software product after delivery to correct faults, to improve performance, or other attributes, or to adapt the product to a changing environment."
3. When hardware fails, the solution is to return the item to its original configuration through some maintenance action. When a software problem, other than a corrupting agent (which may simply be removed), is encountered and corrected, a new configuration baseline is created. This means the software product baseline may be changed on a continuing basis. It is important to document these changes.
4. Software support personnel need much of the same programming skills as the original designers. In fact, due to requirements for complete product knowledge, support personnel may need even higher skill levels. They must be able to determine the reason for errors and be able to rewrite or modify code to preclude a similar failure.

5. Licensing issues are a large part of the logistics and life cycle cost considerations for software. Many commercial software items require individual or a specific number of seat licenses, which limit the number of users at any given time. Licensing fees may be a one time or recurring charge. Upgrades may occur frequently and are not usually included in the license. These issues should be addressed in a supportability analysis and considered during trade-off analyses.
- C. Software Quality Management. Quality management is critical to the success of software applications/products. There are sixteen critical practices that are the key to avoiding significant problems for software development projects. They have been gathered from real-world, large scale, software development and maintenance projects. Many of these apply to all assets, but several specifically address software. These practices are only a starting point for structuring and deploying software and software intensive systems. They should be tailored to the particular culture, environment and life cycle phase of the software/system. The practices are:
1. Adopt continuous program risk management. Risks should be identified, analyzed and prioritized by impact and likelihood throughout the life of the software.
  2. Estimate cost and schedule based on experience and observations. Continuously refine these estimates as information changes or becomes available.
  3. Use metrics to monitor issues and determine the likelihood of risks. Metrics should be used as one of the primary inputs for decisions on the software.
  4. Track earned value by task. This requires each task to have both entry and exit criteria.
  5. Track defects against quality targets. The targets should be pre-negotiated with the user. They are absolute requirements to be met.
  6. Treat people as the most important resource.
  7. Adopt life cycle configuration management.
  8. Manage and trace requirements through up front agreements.
  9. Use system based software design through the system engineering process. The system engineering process should be used to document all the methods used to define the software design.
  10. Ensure data and database interoperability.
  11. Define and control both external and internal interfaces.
  12. Design twice, code once by verifying the characteristics of all designs.
  13. Assess reuse risks and costs through cost trade off studies.

14. Inspect requirements and design using a defined process.
  15. Manage testing as a continuous preplanned process.
  16. Compile and test frequently. Use regression testing for all new releases.
- D. Software Support. The resources for software support generally make up 65-70% of the total life cycle cost. Software support starts with the support concept.
1. The support concept identifies an engineering capability with the personnel resources and skills, physical facilities, and support systems to “debug” or make changes to the software. It must also outline the procedural interface used for queries and change requests from the user to the support organization.
  2. The concept should include a supportability analysis that provides guidance that balances reliability, maintainability, and operational effectiveness with acceptable cost level.
  3. Support for products having Coast Guard wide benefit will be assigned through the normal software support process outlined by the Standard Terminal Application Software Support, COMDTINST 5230.32 (series) instruction. Software support will not be provided unless the appropriate program manager provides the necessary resources.
- E. Configuration Control. All software requiring Coast Guard support, management or attention shall be identified as Configuration Items (CI). They shall be depot level controlled items (i.e., headquarters, a headquarters unit, or the maintenance and logistics commands are the only units allowed to authorize any change). Maintenance and logistics commands may delegate change authority for Category C software (non-standard, locally procured or developed) to Electronic Support Units.
1. The office/person responsible for the acquisition of a software CI is also responsible for providing all the information necessary to establish the initial configuration baselines. This includes the release, version number and source code of software developed for the Coast Guard.
  2. If contractor support is used, the contractor’s configuration management system must meet Coast Guard standards/requirements.
  3. The designated configuration control board has absolute configuration control over all assigned software and is responsible for all support and updating the product baseline. Standard Workstation III Configuration Management Policy (COMDTINST 5200.16) establishes the configuration management policy and procedures for all Standard Workstation III and compatible systems and software. It categorizes software into three categories, each with specific certification and configuration management requirements.

4. The Coast Guard will not normally manage true CANDI software, but should identify the release and version numbers for these programs/applications.
- F. Documentation. Software support planning shall be documented by ILSPs and/or EILSPs for all software CIs. The ILSMT review process shall provide the means for resolving all software related issues.

## CHAPTER 9. TRANSITION TO SUSTAINMENT

*“Which of you, intending to build a tower, sitteth not down first and counteth the cost, whether we have sufficient to finish it?” (Luke 14:28)*

- A. General. One of the most important, but least considered areas of the logistics support process is the transition from acquisition to sustainment. The objective of this deployment phase should be to turn over a new or modified system/platform to users who are trained and equipped to operate and maintain it.
1. Although it may seem like a simple process, it is complex and can be costly if not managed properly. Deployment is not merely delivering the equipment. The acquisition project must also provide all the resources required to establish a full support capability. All of the ILS elements discussed in Chapter 4 must be available on schedule.
  2. In order to successfully accomplish this task, the requirements and measures used to determine success must be established early in the acquisition process. The Facility Manager and Project Manager must agree on exactly what will be provided and when. This agreement should be described in the Operational Requirements Document, which identifies performance and support requirements, constraints, and defines what is required for Initial Operational Capability (IOC) and Coast Guard Support Date (CGSD). Specific goals and measures should be set forth in the Acquisition Plan.
  3. One of the main challenges of the transition process is providing adequate support for the system at IOC and CGSD. In generic terms IOC is when the first unit is turned over to the operational command for use. CGSD is when all permanent logistics support is in place. This means all tech data is available, spares are in place, facilities are ready, and personnel are available and trained in operating and maintaining the asset. The requirements for logistics support for CGSD should be clearly specified in the Operational Requirements Document (ORD). CGSD may occur before, in conjunction with, or after IOC, depending on the supply support concept (Contractor Logistics Support (CLS), Organic Support, etc.) and if the required support resources can be put in place. Once the CGSD requirements are met, the operational community becomes responsible for replacing or replenishing the sustainment support capability. Logistics capability/support may need to be augmented with a range of interim contractor provided services for first unit IOC. The approved Coast Guard definitions of IOC and CGSD are:
    - a. IOC: “The first attainment of the capability of a platform, system, or equipment:
      - (1) Of approved specific characteristics;
      - (2) Operated by an adequately trained and equipped Coast Guard unit; and
      - (3) Effectively performs the required mission.”
    - b. CGSD: “Date all permanent logistics support is in place, whether provided through organic or contractor means or some combination thereof.”

- B. Responsibilities. The project manager, the facility manager, the user(s), and the representatives for the various logistics elements hold the responsibility for an effective transfer of an asset from acquisition to the operational community jointly. The actual transfer should be planned for and executed by the ILSMT. Figure 9-1 outlines the general handoff responsibilities for cutters, boats, aircraft and information technology systems. See Chapter 3 for specific roles and responsibilities of the ILSMT and the individual members.
- C. Actions. Project managers, facility managers and platform managers must negotiate and establish dates for initial IOC and CGSD. These dates shall be documented in the ILSP. The original dates will be updated as the acquisition matures, but once they are established, the originators must agree on any changes. Additionally the Project Manager/acquisition manager must:
1. Describe the handoff process for the asset.
  2. Ensure that the ILSP includes information on how to support systems still in the acquisition process after IOC, what support (if any) that the project will provide for operational systems, and how long this support will be provided.
  3. Identify any interim contractor support to be provided/funded by the project.
  4. Identify any long-term contractor support and when responsibility for funding it will transfer to the operational community.
  5. Define the capability to be established in terms of number of end items to be delivered at IOC, the ready for training capability in terms of infrastructure, operator and maintenance training/trainer equipment training manuals that must be in place, personnel that must be assigned and trained, and initial outfitting spares to be delivered.
  6. Provide the status of each area/issue listed below. Figures 9-2 and 9-3 are a transfer memo and a check off sheet that should be used to document the transfer and the status of various logistics issues. Configuration issues may be addressed in the sustainment CCB charter.
    - a. Technical Documentation: Drawings, and Technical Publications should accurately reflect equipment. Identify the dates final “as-builts” are/were due/received and the activity designated to store, distribute and maintain the data. Identify any interim manuals provided.
    - b. Allowances established and spares and repair parts bought/funded. Provide a list of all spares and repair parts ordered. Include the delivery status of each item. Identify the organization that will receive future delivery reports. Identify any interim provisions implemented to compensate for parts not received.

- c. Long lead-time system insurance stock ordered/received. Provide a list of all insurance stock items. Include the delivery status, source of supply and contract information for all outstanding orders.
- d. Training (operations & maintenance) established/provided. Provide the status of any training requirements (facilities, training aids, instructors, etc.). Include information on any commercial training required or provided. Note if the commercial training is interim or for the equipment's life cycle.
- e. Interim or contractor logistics support documented (as applicable). List the specific support to be provided. Include the status and term of the contract, contact information and actions required to initiate support.
- f. Configuration baselines established, audited, and verified.
- g. Provide up-to-date configuration status accounting information. Identify the delta (difference) between first production unit and follow-on units. List all outstanding engineering changes along with status of each.
- h. Warranty information provided/adequate. Identify the activity responsible for administering the warranty program, what is covered, requirements for receiving warranty support and expiration date/dates.
- i. List the status of all facility issues addressed in the project deployment plan. Include any contract information for outstanding issues and identify the Coast Guard activity responsible for completion. List any contingency actions to take if facilities are not ready.
- j. List any support equipment issues including equipment not yet available, scheduled delivery dates, and any interim provisions to compensate.
- k. Provide a list of outstanding RPs, current status and impact if not approved.
- l. Maintenance support in place. Provide the status of maintenance plans.
- m. Staffing completed for all assets and support facilities. Identify the status of all the personnel requirements established in the project deployment plan.
- n. Provide the latest signed ILSP. Provide the date of the latest ILSMT and the status of any pending updates to the ILSP.
- o. Identify when the ILSMT and CCB chairs were/will be transferred.
- p. Provide a list of any outstanding deliverables along with anticipated receipt dates. Include the process for accepting/approving outstanding deliverables.
- q. Provide the status of any outstanding warranty claims.

## PROJECT HANDOFF RESPONSIBILITIES

<b>CUTTERS</b>	
<b>ILS ELEMENT</b>	<b>GENERIC HANDOFF TO RESPONSIBILITY</b>
Design Interface	Commandant (G-OCU), ELC
Maintenance	Commandant (G-SEN/SCE), ELC, MLC
Supply Support	Commandant (G-SEN), ELC
Technical Data	ELC, SMEF
Manpower	Commandant (G-W)
Training/Training Support	Commandant (G-WTT/G-S)
Support Equipment	MLC, ELC (HM&E)
Facilities	Commandant (G-SEC)
Computer Resources Support	Commandant (G-CIS/CIT/SCE), MLC, ELC
PHS&T	Commandant (G-SLP), ELC
<b>AIRCRAFT</b>	
<b>ILS ELEMENT</b>	<b>GENERIC HANDOFF TO RESPONSIBILITY</b>
Design Interface	Commandant (G-SEA), ARSC
Maintenance	Commandant (G-SEA), ARSC
Supply Support	Commandant (G-SEA), ARSC
Technical Data	Commandant (G-SEA), ARSC
Manpower	Commandant (G-OCA)
Training/Training Support	Commandant (G-WTT)/ATTC/ATC
Support Equipment	ARSC
Facilities	Commandant (G-SEC)
Computer Resources Support	Commandant (G-CIS/CIT/SCE)/ARSC
PHS&T	ARSC

FIGURE 9-1, Project Handoff Responsibilities



## PROJECT HANDOFF RESPONSIBILITIES

<b>BOATS</b>	
<b>ILS ELEMENT</b>	<b>GENERIC HANDOFF TO RESPONSIBILITY</b>
Design Interface	Commandant (G-OCS/SEN/SCE), ELC
Maintenance	Commandant (G-OCS/SEN/SCE), ELC, MLC, Districts, Groups
Supply Support	ELC
Technical Data	Commandant (G-OCS/SEN/SCE), ELC
Manpower	Commandant (G-WR/WP/SRF/OCS)
Training/Training Support	Commandant (G-OCS/SRF/WTT)
Support Equipment	Commandant (G-SCE/SEN), MLC
Facilities	Commandant (G-SEC/OCS), Areas
Computer Resources Support	SMEF, ELC
PHS&T	Commandant (G-SLP), ELC
<b>INFORMATION TECHNOLOGY</b>	
<b>ILS ELEMENT</b>	<b>GENERIC HANDOFF TO RESPONSIBILITY</b>
Design Interface	Commandant (G-CIT), Sponsor
Maintenance	Commandant (G-CIT), Sponsor
Supply Support	N/A
Technical Data	Commandant (G-CIT), Sponsor
Manpower	Sponsor
Training/Training Support	Sponsor
Support Equipment	Sponsor/Contractor
Facilities	Sponsor
Computer Resources Support	Commandant (G-CIT), Sponsor
PHS&T	Sponsor

FIGURE 9-1, Project Handoff Responsibilities (cont.)



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## MEMORANDUM

From: **"Facility Manager"**

Reply to  
Attn of:

To: Commandant (G-A)

Commandant (G-S)

Thru: (1) **"Facility Manager"**  
(2) **"Project Manager"**

Subj: TRANSFER OF "PROJECT NAME"

Ref: (a) COMDTINST M4105.8  
(b) Project Termination Plan dtd ????

1. IAW reference (a) this memorandum is promulgated to document the transfer of "project name" from Commandant (G-**"project" or acquisition official**) to the operational community. (**"Facility and platform managers"**) have assumed responsibility and custody of the assets.

2. All actions required by references (a) and (b) have been completed with the following exceptions noted in enclosure (1) or below.

a. "Note any exceptions/discrepancies or unresolved issues not addressed in the check list."

3. Effective as of **"DATE"** **"Platform Manager"** assumes the chair of the ILSMT.

Enclosures: (1) Project Termination Check List

Dist: **(Normally commands/offices represented on the ILSMT)**

#

Date

### FIRST ENDORSEMENT

From: **"Facility Manager"**  
**"Project Manager"**

1. Forwarded.

FIGURE 9-2, Transition Memorandum of Agreement

### TRANSITION CHECK OFF SHEET EXAMPLE

ITEM	STATUS	ACCEPTABLE (Y/N)	N/A (X)	COMMENTS
DRAWINGS	As built through hull 53953 delivered in AutoCad and hard copy delivered and verified by PRO Anywhere. Final delivery due 31 Aug 2002. ELC (02T) will maintain the original drawings.	Y		
TECH PUBS	As built through hull 53953 delivered in hard copy and electronic format. Verified as accurate by PRO and the ELC. ELC will manage originals. Stock numbers assigned and available in NE-TIMs. Final updates due 31 Aug 2002.	Y		
SYSTEM SPARES	On board repair parts, unit spares, and system stock spares available. Percent on board and status of outstanding orders.			
TRAINING	All required initial training in place. Required training equipment and materials in place and supported.			
INTERIM SUPPORT OR CONTRACTOR SUPPORT	All software is support by CLS through Goodblatz Inc. COMDT (G-ACS) will administer the contract. Interim support is provided for maintenance on the CAT 346, until 01 Sep 02, by Sailor Industries. This support is coordinated by the ELC.	Y		
CONFIGURATION MANAGEMENT	The configuration status accounting information was provided. All baselines were verified. CCB chair transferred to (unit/office).			
WARRANTY	All units have a one year warranty from date of acceptance. The warranty specifically lists the covered items. G-S will administer the program. Contact them prior to submitting any claims.	Y		
FACILITIES	No facility modifications, improvements, or additions were required.	Y		
RP'S	The status of any outstanding RP's provided.			

FIGURE 9-3, Transition Check Off Sheet Example

### TRANSITION CHECK OFF SHEET EXAMPLE (CONT.)

ITEM	STATUS	ACCEPTABLE (Y/N)	N/A (X)	COMMENTS
MAINTENANCE SUPPORT	Maintenance philosophy established.			
PERSONNEL	Required billets identified. (Note the acquisition project has no control over personnel assignments.			
ILSP	KDP-3 ILSP signed on xx/xx/xx.			
OUTSTANDING DELIVERABLES	Any outstanding deliverables identified.		X	
WARRANTY CLAIMS	The status of all outstanding claims provided. Procedures for future claims established.			
SUPPORT EQUIPMENT				
SUPPLY SUPPORT				
COMPUTER RESOURCES				
PHS&T				

FIGURE 9-3, Transition Check Off Sheet Example(cont.)

## LIST OF ACRONYMS

### A

AC&I	Acquisition, Construction and Improvement
AEL	Allowance Equipage List
AI	Availability Index
AM	Acquisition Manager
ANSI	American National Standards Institute
Ao	Operational Availability
AP	Acquisition Plan
APL	Allowance Parts List
ARSC	Aircraft Repair & Supply Center
ASQC	American Society for Quality Assurance
ATE	Automatic Test Equipment

### B

BIT	Built in Test
BITE	Built in Test Equipment
BOSS	Boat Outfit & Supply Support

### C

CAIV	Cost as an Independent Variable
CALMS	Combined Allowances for Logistics & Maintenance Support
CANDI	Commercial and Non-Developmental Item
CBT	Computer Based Training
CCB	Configuration Control Board
CCMP	Cutter Class Maintenance Plan
CDM	Configuration Data Manager
CE	Concept Exploration
CEU	Civil Engineering Unit
CFR	Code of Federal Regulations
CGPMS	Coast Guard Planned Maintenance System
CGSD	Coast Guard Support Date
CI	Configuration Item
CLS	Contractor Logistics Support
CM	Configuration Management
CMAN	Configuration Manager
CMP	Configuration Management Plan
COSAL	Consolidated Shipboard Allowance List
CRS	Computer Resources Support
C2CEN	Command and Control Engineering Center

### D

DAU	Defense Acquisition University
DI	Design Interface
D-LEVEL	Depot Level

DSMC		Defense Systems Management College
	<u><b>E</b></u>	
EECEN		Electronics Engineering Center
EEIS		Electronic Equipment Information System
EILSP		Equipment/System Integrated Logistic Support Plan
EIR		Electronic Installation Record
ELC		Engineering Logistics Center
EMSEC		Emissions Security
ERPAL		Electronic Repair Parts Allowance List
ESH		Environmental Safety and Health
ESD		Electronic Support Detachment
ESS		Equipment Support Sheet
ESU		Electronic Support Unit
	<u><b>F</b></u>	
FGC		Federal Group Code
FMECA		Failure Mode, Effect and Criticality Analysis
FOC		Full Operational Capability
	<u><b>G</b></u>	
GFE		Government Furnished Equipment
GPETE		General Purpose Electronic Test Equipment
GPTE		General Purpose Test Equipment
GSE		Ground Support Equipment
GUCL		General Use Consumable List
	<u><b>H</b></u>	
HAZMAT		Hazardous Material
HM&E		Hull, Mechanical & Electrical
HSI		Human Systems Integration
	<u><b>I</b></u>	
ICS		Interim Contractor Support
ICW		Interactive Course Ware
IEEE		Institute of Electrical & Electronics Engineers
I-LEVEL		Intermediate Level
ILS		Integrated Logistics Support
ILSS		Integrated Logistics Support System
ILSM		Integrated Logistics Support Manager
ILSMT		Integrated Logistics Support Management Team
ILSP		Integrated Logistics Support Plan
IOC		Initial Operational Capability
IPPD		Integrated Product and Process Development
IPT		Integrated Product Team
ISO		International Standards Organization
IT		Information Technology

JQR	<u><b>J</b></u>	Job Qualification Requirement
KDP	<u><b>K</b></u>	Key Decision Point
LCC	<u><b>L</b></u>	Life Cycle Costs
LEM		Logistic Element Manager
LMI		Logistics Management Information
LOR		Level of Repair
LORA		Level of Repair Analysis
LRU		Line or Lowest Replaceable Unit
LSA		Logistic Support Analysis
MAT	<u><b>M</b></u>	Maintenance Augmentation Team
MICA		Management Information for Configuration Allowances
MLC		Maintenance & Logistics Command
MLDT		Mean Logistics Down Time
MMT		Mean Maintenance Time
MNS		Mission Need Statement
MOP		Measures of Performance
MRL		Maintenance Requirements List
MSAM		Major System Acquisition Manual
MSD		Material Support Date
MSG		Maintenance Support Guide
MSO		Maintenance Support Outline
MTBF		Mean Time Between Failures
MTBM		Mean Time Between Maintenance
MTL		Master Training List
MTP		Master Training Plan
MTTR		Mean Time To Repair
NE-TIMS	<u><b>N</b></u>	Naval Engineering Technical Information Management System
NEPA		National Environmental Policy Act
NESU		Naval Engineering Support Unit
OGA	<u><b>O</b></u>	Other Government Agency
OJT		On the Job Training
OLSP		Operational Logistics Support Plan
ORD		Operational Requirements Document

	<u><b>P</b></u>	
PHS&T		Packaging, Handling, Storage, and Transportation
PM		Project Manager
PMS		Preventive Maintenance System
POE		Projected Operational Environment
POP		Planned Obligation Program
PPL		Provisioning Parts List
PQS		Personnel Qualification Standards
PTD		Provisioning Technical Documentation
	<u><b>Q</b></u>	
QA		Quality Assurance
	<u><b>R</b></u>	
RM&A		Reliability, Maintainability, and Availability
RCM		Reliability Centered Maintenance
RFP		Request For Proposals
RP		Resource Proposal
ROC		Required Operational Capability
	<u><b>S</b></u>	
SAB		Support Allowance Billet
SE		Support Equipment
SEP		Systems Engineering Process
SL21		Systems Logistics – 21 <sup>st</sup> Century
SMEF		Systems Management & Engineering Facility
SM&R		Source, Maintenance, & Recoverability
SOP		Standard Operating Procedure
SPD		Support Program Director
SPETE		Special Purpose Electronic Test Equipment
SPS		Statement of Prior Submission
SPTE		Special Purpose Test Equipment
	<u><b>T</b></u>	
TAB		Training Allowance Billet
TCTO		Time Compliance Technical Order
TISCOM		Telecommunications and Information System Command
TM		Technical Manual
TMCR		Technical Manual Contract Requirement
TMDE		Test Measurement Diagnostic Equipment
TOC		Total Ownership Cost
TPS		Test Program Sets
	<u><b>W</b></u>	
WBS		Work Breakdown Structure



## ILSMT AND LEM TRAINING

- A. The following is a list of required and recommended training for ILSMT members:

<u>REQUIRED</u>		<u>RECOMMENDED</u>
G-A-2 Acquisition Process Training (APT)		Procurement Data Packages
Statement of Work Training		

- B. LEMs should attend all the training above, any element specific training required to perform their job and the courses listed below. The Defense Acquisition University (DAU) provides most of these online at no cost.

ACQ 101 Fundamentals of Systems Acquisition Management (DAU online)

LOG 101 Acquisition Logistics Fundamentals (DAU online)

SAM 101 Basic Software Acquisition Management (DAU online)(Computer Resource LEM)

- C. The following courses are recommended for all LEMs. Quotas are available either online through DAU or through the Defense Systems Management College (DSMC), Fort Belvoir, VA. Online courses are no cost. On-site courses through DSMC are tuition free, but travel and per diem must be funded.

ACQ 201 Intermediate Systems Acquisition (DSMC)

BCF 101 Fundamentals of Cost Analysis (DAU online)

LOG 201 Intermediate Acquisition Logistics (DSMC)

PQM 101 Production and Quality Management Fundamentals (DAU online)

CON 101 Basics of Contracting (DSMC)

IRM 101 Basic Information Systems Acquisition (DAU online)(Computer Resource LEM)

LOG 203 Reliability and Maintainability (through DSMC) (Maintenance LEM)

SYS 201 Intermediate systems Planning, Research and Development (DSMC)

- D. Additional training, that may be beneficial for LEMs, is available through DSMC and DAU. This training includes:

COTR (on-line from the Coast Guard)

BCF 206 Cost Risk Analysis

LOG 204 Configuration Management

LOG 205 Provisioning

LOG 304 Executive Acquisition Logistics Management

PMT 302 Advanced Program Management

CON 210 Government Contract Law

BCF 102 Fundamentals of Earned Value Management

BCF 203 Intermediate Earned Value Management

BCF 211A Acquisition Business Management

PQM 101 Production and Quality Management Fundamentals

PQM 203 Preparation of Commercial Item Descriptions

TST 101 Introduction to Acquisition Workforce Test & Evaluation

TST 301 Advanced Test and Evaluation

SAM 201 Intermediate Software Acquisition Management

SAM 301 Advanced Software Acquisition Management

ACQ 401 Senior Acquisition (ICAF)





